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First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

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EDITORIAL COMMENT.

In Memoriam. With deep regret we have to announce the death of Sir Chas. D. Rose, M.P., whose services to aviation, both in Parliament and as Chairman of the Royal Aero Club, are too fresh in the minds of our readers to require setting forth in detail. It was within a short time of a manifestation of his deep interest in aeronautics that the end came. He had been visiting the Hendon Aerodrome, where he had taken a flight with M. Verrier, to whom he had expressed his satisfaction and pleasure at having had this opportunity of taking part in the active development of the science. On arriving home, his chauffeur at once saw something serious had happened, and before the services of a doctor could be requisitioned he had passed away. In the midst of the sorrow that we, like all who knew him, feel at his loss, we have at least this consolation—that he died as he would have wished, in full harness, and practically in the midst of those interests to which he had devoted so much time and energy.

His loss is well nigh irreparable to British aviation, for he was one of that all too rare type which combines

intense enthusiasm with a full appreciation of facts and possibilities, and his work for the science, therefore, was of a character which leaves an impress on any movement with which it is connected. A thorough sportsman, a sound man of affairs, and one with a deep knowledge of human nature, Sir Charles was a man who must have left his mark in any walk of life into which fate might have taken him. He was eminently one of those personalities whom it is a delight to know—a charming gentleman, a staunch friend and one whose judgment in all things was of the soundest. To his family and friends we tender our deepest sympathy in their—and our own—loss.

Criticism of the *Daily Mail* Prizes.

It was hardly, perhaps, to be expected that the offer of the *Daily Mail* of a prize of £10,000 for a waterplane flight across the Atlantic should pass without criticism from the sentimentalists, and no less a personage than Sir Philip Burne-Jones, the famous artist, has come into the lists with a letter to that journal, describing the offer as an inducement to suicide. The *Daily Mail* is quite capable of justifying its own point of view, and has, indeed, done so in a very able leading article in reply to Sir Philip, the moral of which is "Live dangerously."

It seems to us that those who declaim against the *Daily Mail's* munificent offer of encouragement have but short memories, for they are saying in effect precisely what was said at the time the same journal offered its prize for the London-Manchester flight. It was dangerous, it was impossible, it was farcical. Yet it was won, and that without serious accident. There is one aspect of the matter, too, that seems to be neglected, and that is the one of there being no time limit set for the winning of the prize. If the *Daily Mail* had said that this cross-Atlantic prize must be won before the end of the year, for example, we should ourselves, perhaps, have, to a certain extent, sympathised with Sir Philip Burne-Jones' view of the matter. The waterplane has not been so fully developed to the point when the risk of a journey like that across the Atlantic could be justifiably faced. While that is perfectly true, it is equally certain that, unless adequate encouragement is given to its development, it will never be able to undertake such a journey. The point is this: it is all very well to institute competitions of a short-distance character, in which risk is reduced to practically nothing, but so long as things are restricted in this way there is actual incitement given to those

taking part to take risks which would never be contemplated in more ambitious journeys such as that across the Atlantic. If you confine events to even such competitions as that of the *Daily Mail's* around Britain contest, you will always have entering that particular brand of risk-taker who thinks he may possibly fluke through, and that if he does not, he is not running any grave risks, because he will always be within hail of assistance. But the Atlantic contest is entirely another thing. Before a man can seriously contemplate taking part in a thing of the kind, he must of necessity sit down to study and take into account all the risks of his enterprise. He arrives at a realisation of all it entails, and must make scientific preparations for surmounting his risks, and even though in the end he may decide that, after all, the game is not worth the candle, he will have added something valuable to the sum total of our knowledge.

Apart from all these considerations, it is idle to deny that to attempt the Atlantic flight does infer danger, and a good deal of danger. But we do say that the task is not one of such impossibility as to make it so dangerous as to be out of court on grounds of sentiment. The *Daily Mail* has laid it down in its conditions that the Royal Aero Club is to formulate all the regulations for the actual competition, and we think it may be left to that body with perfect confidence to so draw them and to so keep out the crazy experimenter as to reduce the risks to the minimum. It cannot legislate for the unforeseen, but it can at least so legislate as to prevent what is intended for encouragement degenerating into what conceivably might rank in the public mind along with those unedifying spectacles in which life is wantonly risked for the sake of mere advertisement.

Following on Sir Philip Burne-Jones' letter, there appeared in the *Daily Mail* a few days since, another communication from Mr. Schilizzi, in which he puts the arguments against the Atlantic Prize very cogently, and with admirable balance. But even he goes, we think, somewhat wide of the mark when he says in effect that the offer of the prize is likely to encourage mere recklessness. He says, further, that all competitions of this character should be framed with a due regard to two cardinal principles. In the first place the element of risk should be cut down to the irreducible minimum compatible with a full yield from the experiment of all the light it is capable of shedding on the problem. Secondly, the experiment should be so designed and adjusted as to bring into the fullest possible relief the weak features of a machine, and so point the way to modification and improvement. All the essentials, he thinks, can be achieved by competitions of equal aggregate distance to the Atlantic flight along our own coasts.

It is here that we join issue with him, for the reasons we have already set forth earlier in this article. Short distance competitions, even where they aim at large aggregates, cannot in their nature induce the close scientific study of the many problems involved, or produce the same influence on opinion as the more risky flight across a wide expanse of ocean.

Of this last there can be no doubt, as witness the effect on the public mind of Hamel's recent magnificent flight, under the auspices of the *Standard*, from Dover to Cologne. Aggregate flights of greater duration have been achieved—the Circuit of Britain, for example, but we question very much if even that produced the same sense of what we may call the practicability of the aeroplane as Hamel's flight. It was a spectacular per-

formance, and that counts for a great deal in influencing public opinion.

For our own part, we are absolutely at variance with Sir Philip Burne-Jones on the subject under discussion, and, therefore, in full accord with the *Daily Mail* and the objects it seeks to attain.

* * *

Making Good Official Derelictions.

Once more private enterprise has come forward to make good the neglect of the Government to place the aerial defences of the country on a proper basis. Hitherto the Government has, to put it mildly, given very little encouragement to the formation of volunteer air corps—as witness the fate of the recently disbanded London Balloon Company, and so nothing has resulted from the public-spirited movement towards creating a species of volunteer air reserve as an accessory to the Royal Flying Corps. True, the Special Reserve of Officers exists as a live factor in the situation, but little or no encouragement has been held out to those interested in the formation of a reserve of what might be called a more popular character. Liverpool, however, has now come forward with a concrete contribution to this movement, and by the munificence of two of her citizens—Messrs. W. E. and C. A. Cain, she will presently possess a volunteer air corps, properly equipped with one or two approved aeroplanes.

This is a magnificent example to the rest of the country, and one which we hope to see largely copied. We must have an adequate air-fleet, which it is the first duty of the Government to provide, but if those in authority are so dead to a proper sense of their responsibilities as to refuse or neglect to give it to us, then the thing must be started by private enterprise. Thus, and thus only, can the State be aroused to a sense of the national need, and thus only can we achieve safety against the designs of our possible enemies. He gives best who gives promptly, and we sincerely trust that the example of the Messrs. Cain will not only be followed all over the country but that it will be taken to heart at once. Indeed, there are not wanting signs that private individuals are alive to the necessities of the situation, for we note with pleasure that Messrs. William Coward and Co., jointly with the proprietors of *The Standard*, have guaranteed the cost of a military aeroplane to be presented to one of the principal States of the Empire to form the first unit of an Imperial Air Fleet. This machine, which turns out to be the one on which Hamel made his now historic flight from Dover to Cologne, has actually been purchased, offered to the Government of New Zealand, and accepted by them.

These two instances of public spirit in the matter of aerial defence are extremely valuable in themselves, but their principle is of even greater value in that it affords an indication of an awakening, tardy it is true, but nevertheless an awakening which must have a most excellent reaction on the present deplorable situation of our air defences.



Determining Position at Sea.

An interesting experiment in view of the proposed Transatlantic flight was made at Eastbourne Aerodrome on Tuesday morning, when Mr. Fowler took up Mr. Rainey, a navigating officer of the R.M.S.P. Co., who was anxious to prove whether it was possible to ascertain with any degree of accuracy the position of an aeroplane in flight over the sea when no land was visible. Mr. Rainey took up his sextant and a chronometer, and had no difficulty in determining, within a quarter of a mile, the position of the machine while in flight. The latitude was obtained by the double altitude method, and the position was proved by a chart

MEN OF MOMENT IN THE WORLD OF FLIGHT.



MR. D. LAWRENCE SANTONI, Managing Director of the British Deperdussin Aeroplane Co., Ltd., Founder and Chairman of General Aviation Contractors, Ltd., the British Anzani Engine Co., Ltd., &c. Mr. Santoni, with M. Prevost as pilot, was the first to deliver, by way of the air, a monoplane ordered by the Admiralty, flying it from Paris to Eastchurch on April 12th, 1912.

THE DYOTT MONOPLANE.

A VERY interesting machine has just been completed at the Hewlett and Blondeau Aeroplane Works at Clapham, to the designs of Mr. G. M. Dyott. Although in its outward appearance the machine follows the lines of well-known makes, Mr. Dyott has managed to incorporate in it a very great number of cleverly-thought-out details, which his practical experience as a pilot has suggested to him.

The fundamental feature of the design of this machine is the fact that the gunwales are parallel to the line of flight, a method of construction which greatly facilitates the "tuning up" of the machine, as all adjustments may then be made from this line. This is a point which will be readily appreciated by anybody who has ever had to tune up a machine on the flying ground or in a temporary hangar, the floor of which was not level.

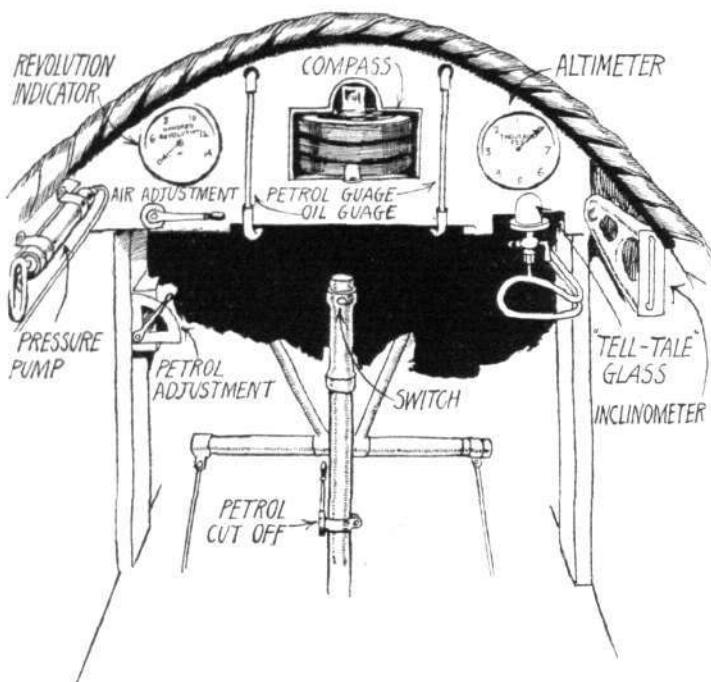
The body, which is of rectangular section, is built up in the usual way of four *longerons* connected by struts and cross members, the whole being braced by strong diagonal wiring. Ash is the material used in the construction of the front part of the body, where it has to carry the weight of the engine, tanks and pilot, and where consequently the greatest strength is required, while the rear portion of the *fuselage* is made of spruce. It is interesting to note that the joints of the struts and cross members to the *longerons* are so designed that not a single nut projects beyond the *fuselage*, a fact which permits the fabric to be applied absolutely smoothly to

the body. From a point just behind the pilot's seat thin streamers, forming a "turtle back," run back to the rudder post, thus forming a nice stream-line. An aluminium cowl covering up the cockpit and front part of the body, and extended beyond the nose of the machine to form an oil-shield over the engine, completes the stream-line.

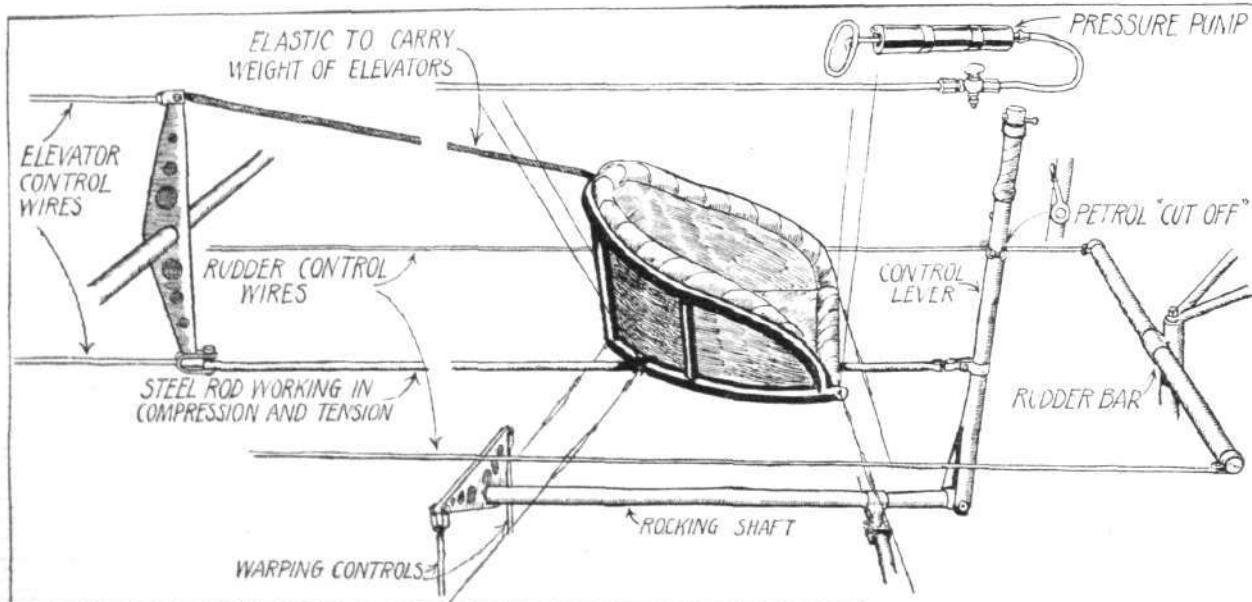
As will be seen from the plan view of the machine, the wings, which are somewhat reminiscent of the Dep., have two main spars of rectangular section, each spar being built up of three laminations, ash in the centre and spruce on the sides.

Both spars fit into sockets situated in two stout transverse struts in the *fuselage*. In order to allow of the wings being warped, the socket for the rear spar is made a loose fit on the spar, which is pivoted around a strong bolt, secured by a split pin. To dismantle the wings, all that is necessary is to undo the top and bottom stay wires and the two bolts through the rear spars, and the wings can be taken off. The ribs, which are evenly spaced along the spars, are built up of webs of ash with flanges of spruce. The wings, as well as the body, are covered with unbleached linen, doped with S.P.L.A. varnish, the fabric being laced

along the trailing edge, so that it may be kept taut under all climatic conditions. Lift and drift are taken by stout stranded cables attached to the lower extremities of the front skid struts, whilst the top bracing is effected by cables secured to a

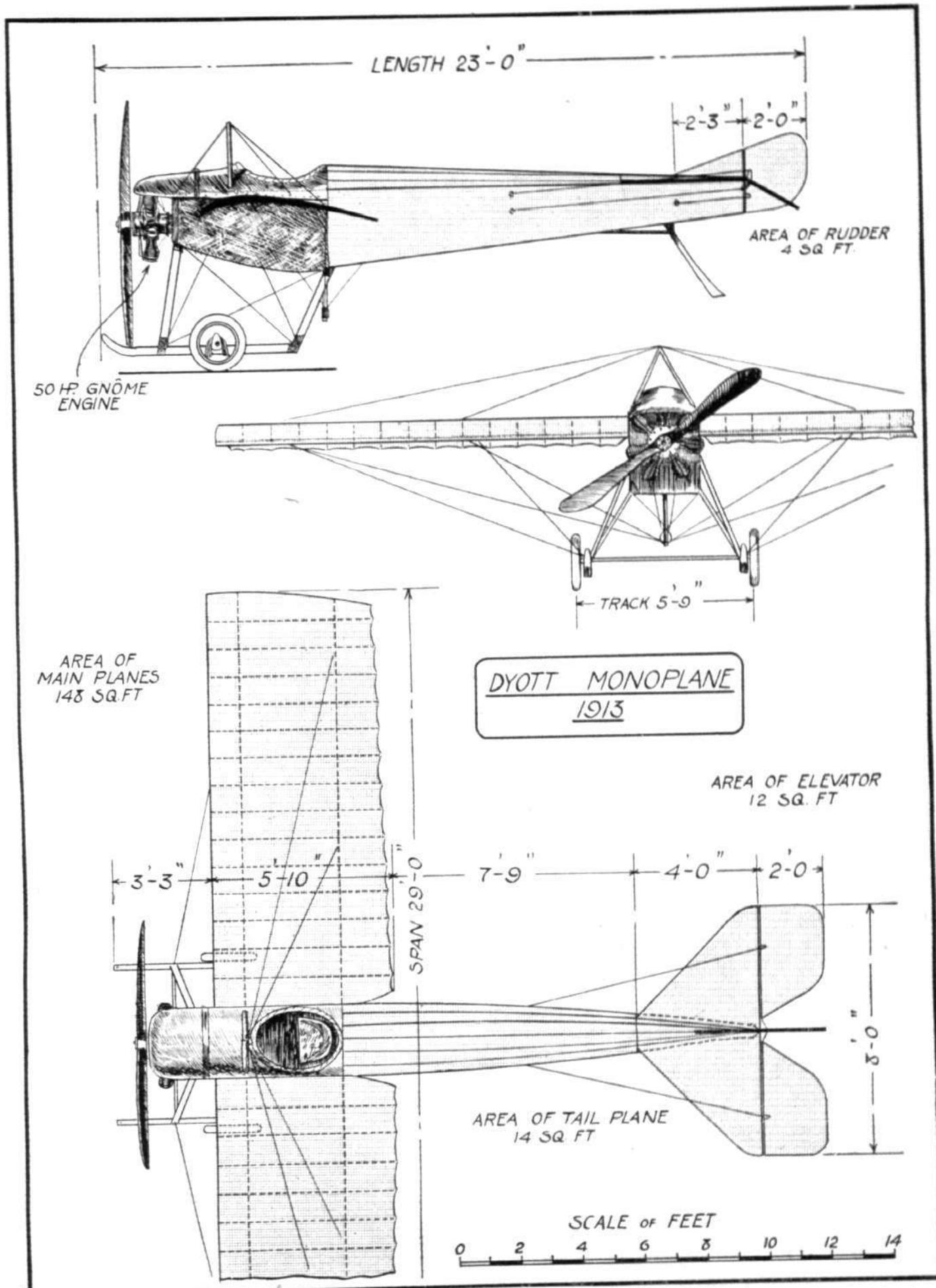


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Sketch of the dashboard, showing the different instruments.

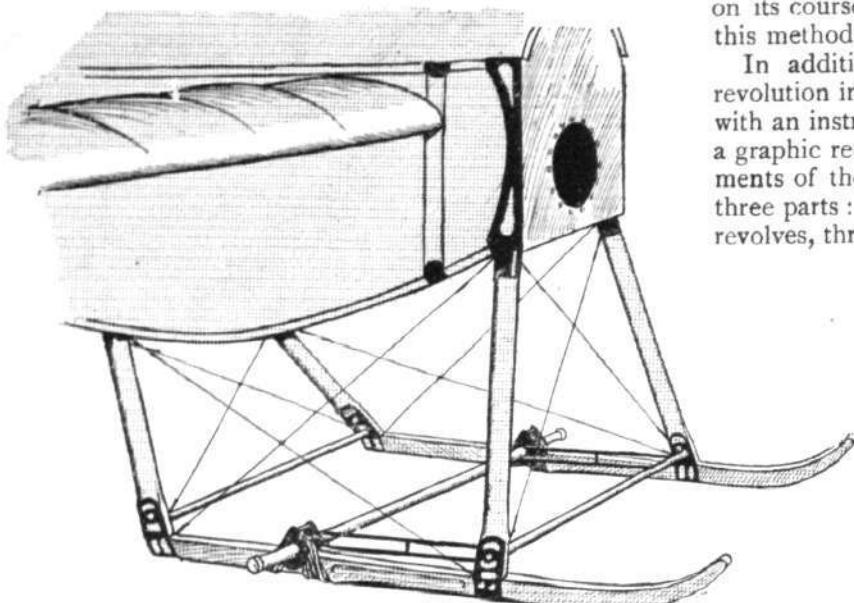


Diagrammatic sketch of the Dyott controls.

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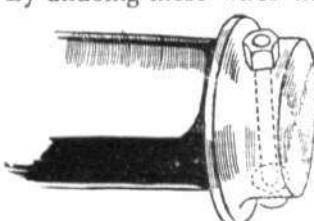


DYOTT MONOPLANE.—Plan, side and front elevation to scale.



The landing chassis; the wheels have been omitted for the sake of clearness.

tubular A-shaped pylon. This pylon fits into two sockets on the gunwales, and is braced fore and aft by steel wires. By undoing these wires the pylon may be pulled out of its sockets and stowed away inside the body. The lower



The wheel retaining axle cap on the landing chassis.

pylon, which consists of a single stream-line tube, carrying at its lower extremity a drum for the warping cable, is pivoted to the floor of the fuselage and stayed fore and aft by steel wire, so that it may be folded flat against the body.

Situated well down in the deepest part of the body, so that only the pilot's head projects above the cowl, is the pilot's seat, which is made of welded steel tubing and slung from the gunwales and securely braced to the lower *longerons* by steel wires. A neat padding of red leather, strapped on, covers the tubular framework of the seat, and the edges of the cockpit are padded in a similar way to protect the pilot, should he be thrown against them owing to a rough landing.

In front of the pilot is a very neatly-designed dashboard with all the different instruments useful for cross-country work, nearly all of which have been specially made for Mr. Dyott. Thus the compass, which is made by Kelvin and James White, Ltd., has only the cardinal points N.S.E.W. marked on it, and the four divisions are painted white, yellow, blue and red respectively. The pilot does not watch the compass card directly, but its reflection in a small mirror seen in one of the accompanying sketches. The north quadrant is painted white, and so the pilot knows that as long as he sees white in the mirror, he is steering a course somewhere between the quadrantal points N.W. and N.E. This does not, of course, give very accurate steering, but Mr. Dyott finds that it is very difficult to keep an aeroplane absolutely

on its course in anything but a dead calm, and so prefers this method.

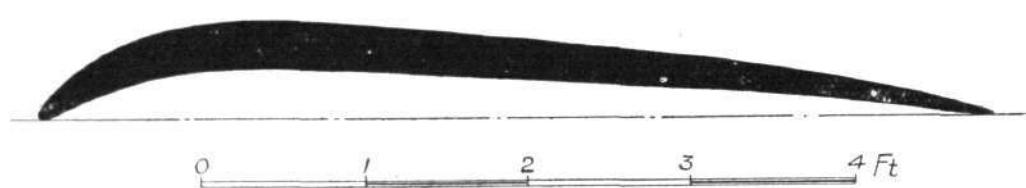
In addition to the usual instruments carried, *i.e.*, revolution indicator and altimeter, this machine is fitted with an instrument of Mr. Dyott's own invention. It is a graphic recorder which shows all the different movements of the control levers. The chart is divided into three parts: Warp, Elevator and Rudder. As the drum revolves, three pointers draw the three different graphs,



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Sketch of the special compass used on the Dyott monoplane.

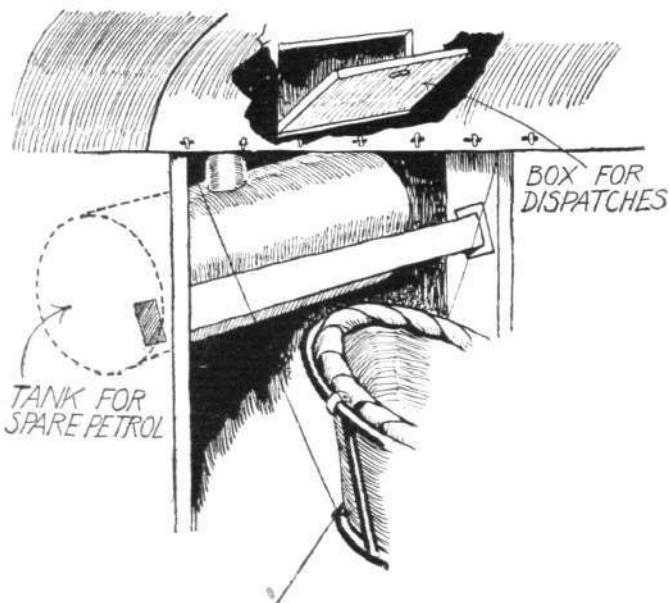
so that in a straight flight, during which the control levers were not moved at all, the pointers would draw three straight lines, but as soon as the course was altered the pointer connected to the rudder would make a wavy line, and as the warp is used in conjunction with the



Wing section, to scale, of the Dyott monoplane.

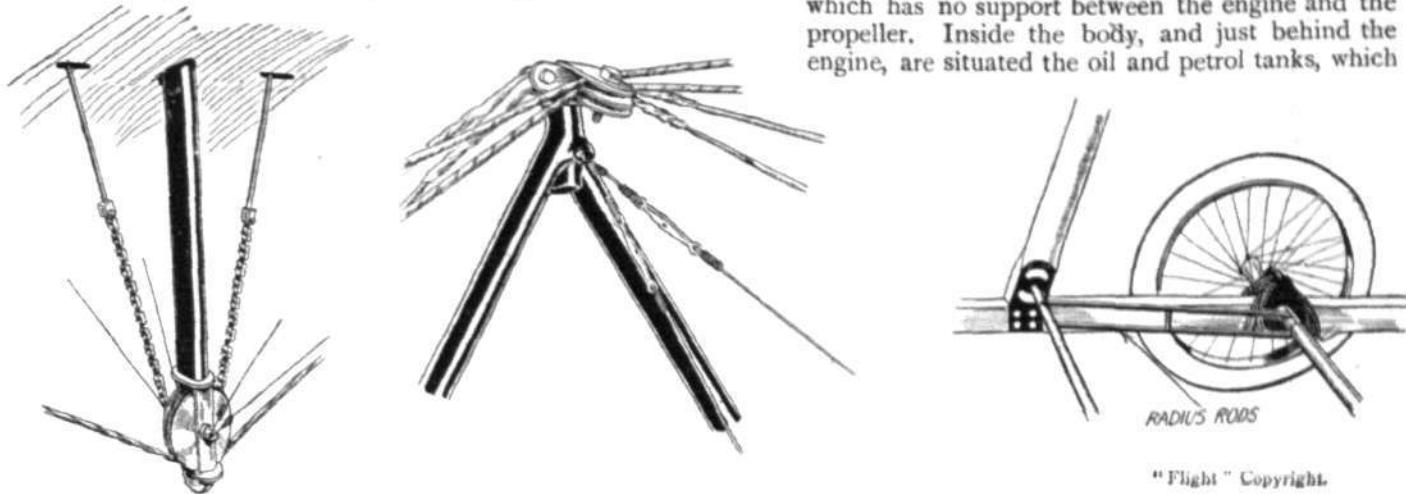
"Flight" Copyright.

rudder, the warp pointer would draw a corresponding curve. This instrument should prove of great service, and furnish some very interesting data for comparing the different ways in which different pilots control the same machine.



"Flight" Copyright.
The locker and auxiliary fuel tank behind the pilot's seat.

The method of controlling the machine forms the subject of one of our sketches, which explains it better than a mere description ever could. It will be seen that crossing of the elevator-wires is avoided, so that there is no danger of them rubbing against one another and so becoming frayed and ultimately worn through.



Details of the Dyott monoplane; the sketches on the left and in the centre show the lower and upper pylons with their fittings. On the right is seen one of the shock absorbers on the chassis.

Coming now to the chassis, which is of the wheel and skid type, this structure is interesting, mainly on account of the ease with which its different members may be replaced in case of breakage. By undoing the bracing-wires, all the struts may be pulled out of their respective sockets (the front pair of which are welded to the engine frame) without unscrewing any nuts or screws.

This is one of the really useful features of the machine. The use of screws and bolts has been reduced to a minimum, and wherever possible one bolt has been made to serve two purposes. Thus only four bolts are

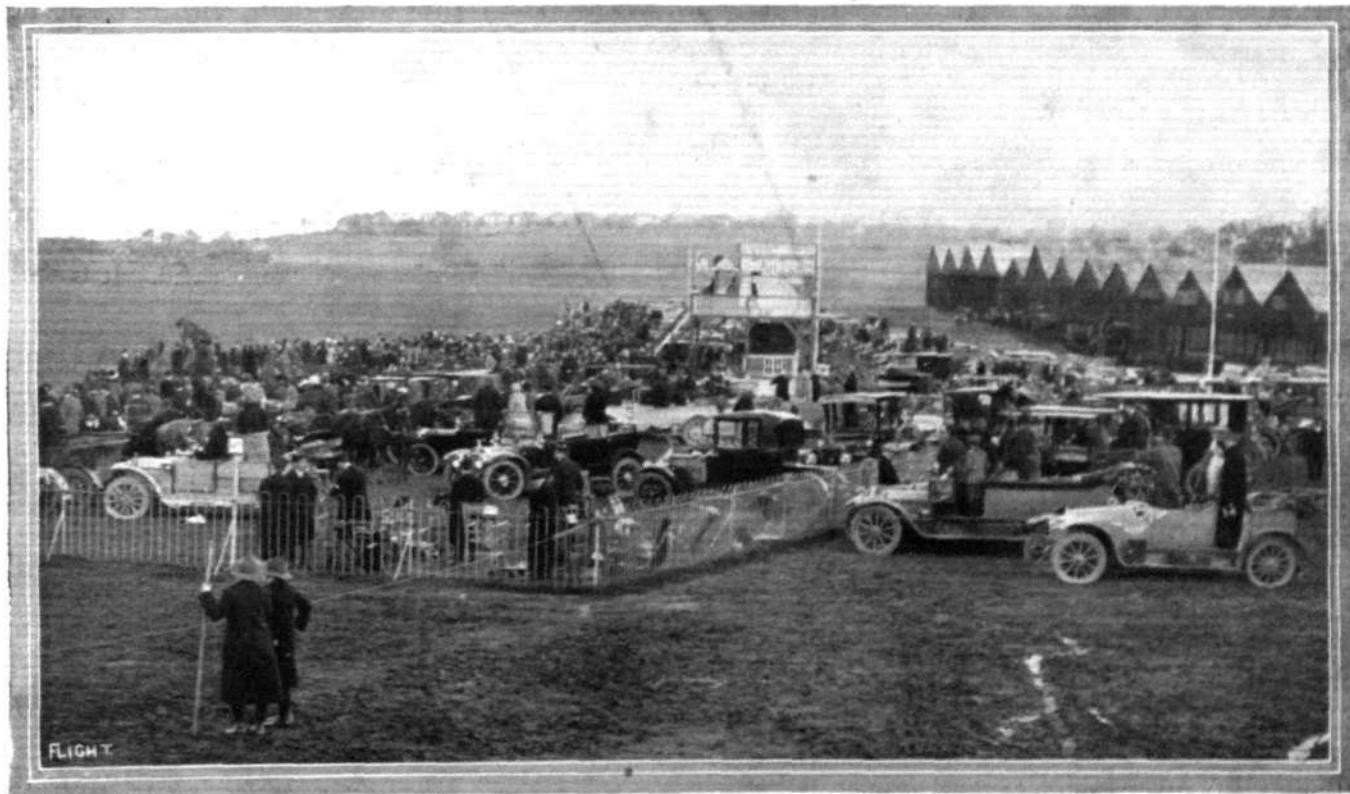
employed to secure the tail plane, which is of the non-lifting type, to the fuselage.

A framework of steel tubing forms the *empennage*, which is very strong and quite light—about 10 lbs.

Right outside the nose of the machine, where it is easily accessible, is mounted the 50-h.p. Gnome engine, which has no support between the engine and the propeller. Inside the body, and just behind the engine, are situated the oil and petrol tanks, which

have a capacity of 8 gallons each. Just behind the pilot's seat is another petrol tank, containing an additional supply of 10 gallons. The petrol is forced from this tank to the one in the nose of the machine by means of a hand-pump, situated to the left of the pilot's seat.

Mr. Dyott is taking this machine out to America, where he is booked to give exhibition flights in California, and at other places. We understand that on a similar machine Mr. Dyott proposes, on his return from America next October, to attempt the flight to India, the arrangements for which are now being made by Mr. E. Esdaile.



The crowded half-crown enclosure at the London Aerodrome, Hendon, on London Day.

ARMCHAIR REFLECTIONS.

By THE DREAMER.

Oh, Those Official Tests.

ONE of the tests that an aeroplane has to go through on delivery at Farnborough is that of rolling. Not merely landing, or rolling to gather speed to rise, mind you, but running up and down the ground like a pheasant shot in the wing, and at about the same speed, and pheasants can run I give you my word, I've tried to catch them when I was a boy and the shooters were in the next field. This is supposed to be done to see if they will stand it, and it is a foregone conclusion—they won't.

Nearly every machine comes to grief—and quite right too! No self-respecting machine whose duty it is to fly wants to be turned into a "plater." "Mr. Henry Farman has entered two machines for the Grand National" might read all right in a few years' time, but just at present we want machines to fly, not to go steeplechasing. The ground at Farnborough is, I believe, not the best in the world to rush a machine over at speed, and in at least one case the propeller touched the ground. With new machines—that is, machines of a new type, or old patterns which have had the undercarriage altered—perhaps it is necessary to some extent; but to take machines like those now being delivered almost daily, well—

After they have done this, if they are in a condition to be moved, they are loaded up with a dead weight of sand till every strut, wire and bolt is strained almost to the breaking point. A strain far in excess of anything a machine is ever likely to have to stand in the air, in my opinion. If they stand this without dropping to pieces they are quite ready to be taken out, and the first rough landing settles the business, for the simple reason that the poor machine was only waiting for the chance to crumple up decently.

A Pen Picture—with apologies (if recognised).

Have you ever had your photograph taken? No doubt you have; and when you have got them home you have said you could have made a better portrait with a big brush and a pot of tar! Now, I am not much in the portrait line myself, either photographically or per pencil, being more given to scribbling nondescript nothings and wasting good paper, in the hope that some poor editor may be taken unawares—when he had come away without his glasses—and think me a genius. But the thought struck me to-night that I could write a portrait. Seems funny, doesn't it? Mr. Portrait,—If you recognise yourself, I don't live anywhere roundabout here, and never visit an aerodrome—pronounced "air-e-o-drome" (megaphone man)—so put your pea-shooter away, and simmer down, please!

I will now proceed to gaze into my crystal and see what I can see.

I see a man, rather above than below middle height, though not what might be called "bulky" except perhaps in the region of the head, which is well formed and set on rather square shoulders. The face is clean shaven and exposes a jaw with no end of determination in its lines. It is the sort of jaw that one would expect to find on a man that would see an opening early in a new industry, and jump right on it with both feet. The figure is clothed in a very "sporty" rig. Brown boots and leggings lead up to a pair of riding breeches of the "nutty" type and of a pattern which reminds me of the Pantiles at Tunbridge Wells. Above this is a waistcoat on which I always feel I should like to play noughts and crosses, and which would be

aggressive, except that it is partly covered by a jacket which, so to speak, knocks the breath out of it. Just above the waistcoat I find a tie—not half a tie, mind you, but a real, full-blown tie that would cause a commotion in the "Quatier Latin" equal to a stolen Mona Lisa! Coming once again to the face, I see what I had failed to see before—I see that, with all its determination, it is a kind face; there is a perpetual smile there that is good to see, and which does not seem capable of being easily rubbed off. On the top of the face there is a cap—but, no; I will not try to describe that cap! I believe pilots coming from a distance, and not being quite sure of their bearings, breathe again when they see it from afar—a real good sort; cheerful, energetic, kind! Who is he?

Little Des'.

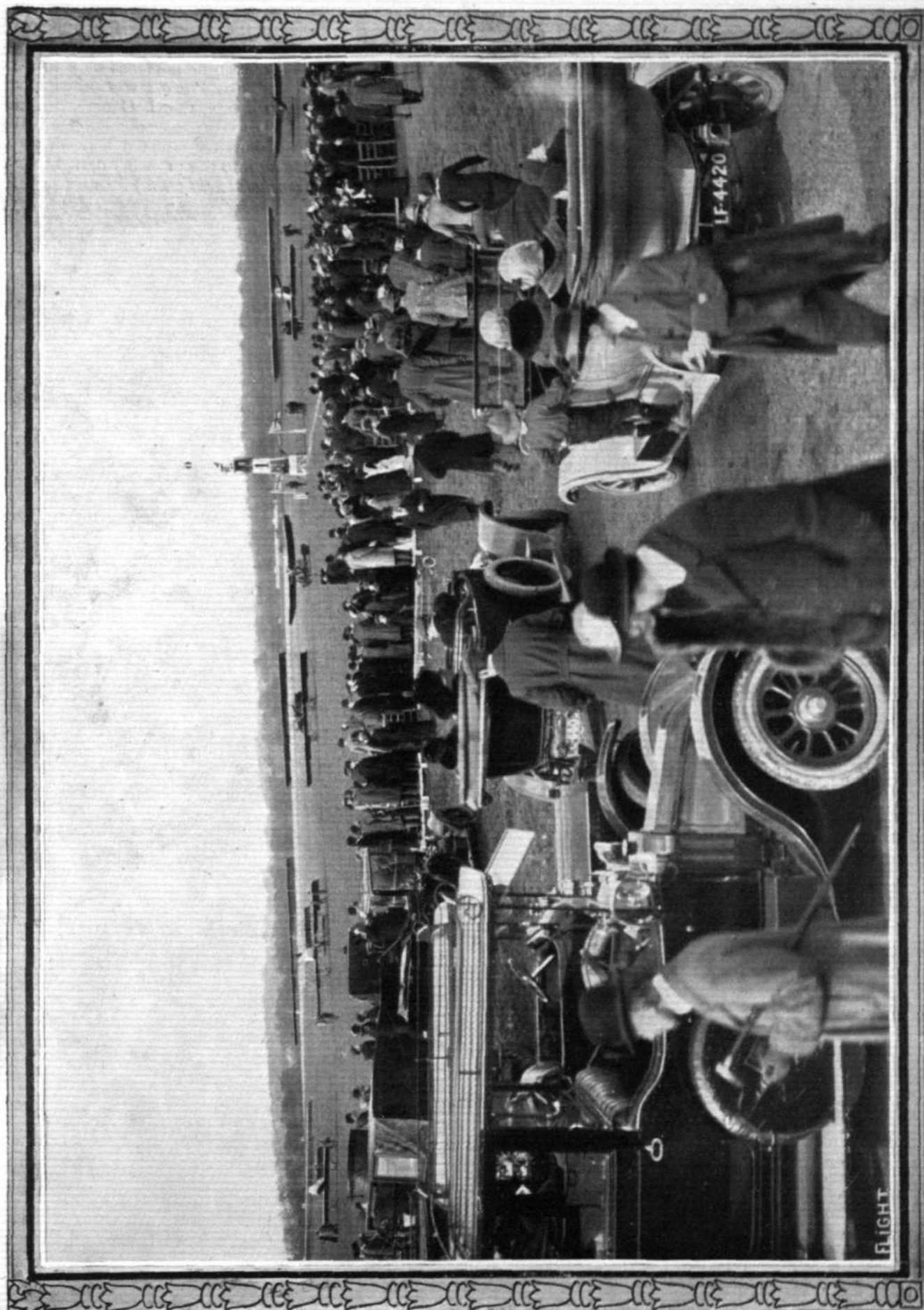
Little Des', on your bed of sickness you are not forgotten, and this is to cheer you up and wish you speedy recovery. We have learned to like you little Des', and we miss you. Do not think that because you are not with us at the moment that nobody cares. Yours it is to bear the trial, and unfortunately it is not possible for us to do much to relieve you, but the little that we can do is to assure you that every man, in and out of the aerodrome is your friend and wishes you well. We do not forget the pleasure you have afforded us on so many occasions by your splendid flights, and when there is flying on and your rosy smiling face is not there, there seems to be something missing. Whether you will ever take up flying again or not must rest with yourself. Should you do so, be sure of a hearty welcome. Should you decide not to do so, be sure that nobody will blame you or think any the less of you for your decision. You are young, too young to have had this terrible trial, but the world may yet hold many bright years for you in spite of all. Cheer up little Des', we are thinking of you.

Tea on the Lawn.

It is an intrinsic part of our nature, that whenever we go out on pleasure bent we must take tea. If in the summer time we can manage to take it on the grass, be it lawn or meadow, our happiness is on the way to being complete. At Hendon tea is provided during the summer in the half-crown enclosure, and judging from the number of customers, is appreciated. It is a very trying time to visitors to have to wait for long periods on windy days, for the pleasure of our friend the enemy, who seems perverse in exercising his prerogative by blowing our patience almost to the vanishing point, and then just as we prepare to depart in sorrow, suddenly to drop to a zephyr. The amount of patience shown by the public during these unavoidable waits is truly remarkable, and could it be possible to take tea in the open at this time, it would help materially in adding to the pleasure of the day.

The enclosures at Hendon are of goodly proportions, although it is only the part near the railings that is at all congested, and there would be plenty of room at the back to have some little tables set out, where one could invite one's friends to partake of the cheering cup. It is possible even now, of course, to get tea at the Aviation Tea Rooms outside, where the service and refreshments are all that could be desired, but one cannot take tea and watch the flying at the same time, which is very desirable.

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LONDON DAY AT THE HENDON AERODROME.—A general view from the enclosure, showing some of the competing machines in line at the first pylon.



Deperdussin.

The Deperdussin monoplane at Monaco was constructed on similar lines to the land machines, with the exception, of course, of the under-carriage portion by which the body was attached to the floats. Two floats were employed, and the attachment was rigid. Massive timber struts passed from the shoulders of the body to the middle of the decks on the floats, and lateral stiffness was obtained for this fastening by bracing the sides of the floats to the heads of the struts by steel wires.



ROYAL FLYING CORPS (MILITARY WING).

WAR OFFICE Summary of work for week ending April 19th, 1913:—

No. 1 (Airship) Squadron, Farnborough.—On the 14th, 15th and 16th, the Squadron was engaged in rigging the "Delta," and in kiting work. About 40 kiting ascents were made in all. On the 17th and 18th the "Delta" was out doing test flights.

No. 2 Squadron, Montrose.—On the 10th, 11th, 12th, 14th, 15th and 16th, all the pilots were up carrying out reconnaissance flights over the country round Montrose. The Caledonian railway line, some 30 miles distant, is being re-sleepered, and some useful experience in observing this repair work from different heights was gained.

No. 3 Squadron, Larkhill.—On the 12th and 15th a certain amount of flying took place, but on the 16th the weather made flying quite impossible until the evening, when Lieut. Cholmondeley flew to the Central Flying School and back by moonlight. The 17th was a very busy day, and the work included observation of artillery fire and several long cross-country flights. Serjt. Ridd made a reconnaissance round Andover.

No. 4 Squadron, Farnborough.—On the 11th, 14th, 15th, 16th and 17th, plenty of flying took place, including numerous cross-country reconnaissances. The 17th was a particularly busy day, and several air mechanics were taken up.

Tubular steel struts were also inserted diagonally from the sides of the floats to the middle of the principal struts.

Although several Deperdussin monoplanes were to be seen at Monaco, that piloted by Prevost was principally in evidence. It had a 160-h.p. 14-cyl. Gnome, and a minor detail of interest was the presence of a longitudinal air intake-pipe for the carburettor situated beneath the body with its orifice facing into the propeller draught.

(To be concluded next week.)



The Pay of Naval Medical Flying Officers.

In the *London Gazette* of April 18th, was published an Order in Council by which the King, on the memorial of the Admiralty, approves of the following arrangements to meet the cases of pay to medical officers who may be attached to the Naval Wing of the Royal Flying Corps, and whom it may be necessary to train in flying:—

1. Medical Officers who obtain the certificate of the Royal Aero Club at their own expense to be eligible for the gratuity of £75, provided the permission of the Admiralty to undergo such training has first been obtained.

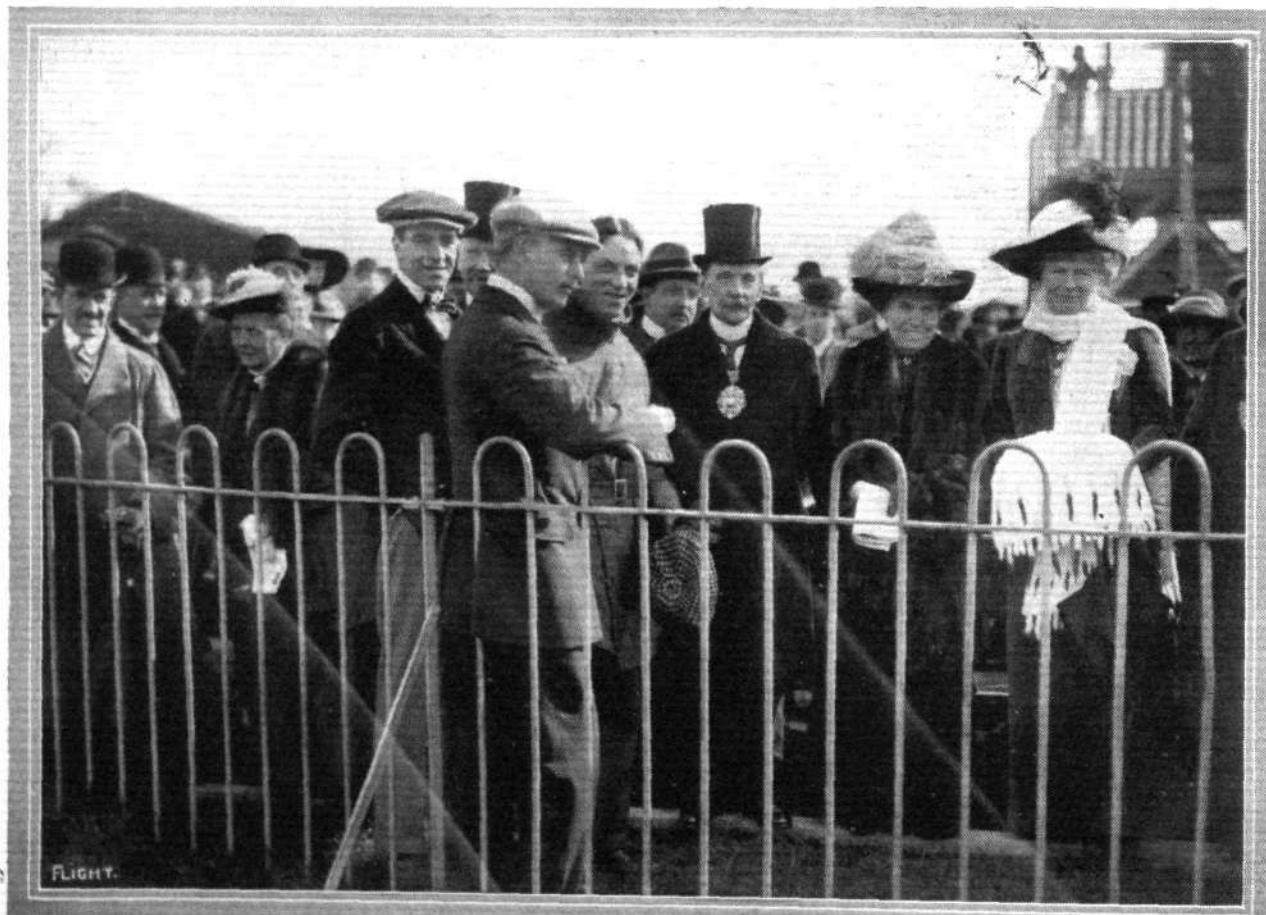
2. Medical Officers trained at the Central Flying School or at a Naval Flying School to be paid half the authorised rate of flying pay while under instruction.

3. After attaining such standard of proficiency as may be laid down, Medical Officers to be paid the authorised rate of flying pay: (a) for any days on which they may be required to fly on duty; (b) for days on which it may be necessary for them to carry out practice flights, not exceeding two per month.



To Avoid Confusion.

In view of the mistakes which have appeared in the daily Press, we are asked by Mr. J. Laurence Hall, of Sheffield, to state that he is in no way connected with the late Mr. J. B. Hall (who was so unfortunately shot the other day). It will be remembered that Mr. J. Laurence Hall did some very fine work on a Blériot at Hendon some little time back, and has since been flying in the North.



The Lord Mayor and Lady Mayoress being introduced to M. Chevillard by Mr. Claude Grahame-White at the railings, M. Chevillard being to his right and next to the Lord Mayor.

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The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Committee Meeting.

A MEETING of the Committee was held on Tuesday, the 22nd inst., when there were present: Col. H. C. L. Holden, C.B., F.R.S., in the Chair, Mr. Griffith Brewer, Col. J. E. Capper, C.B., R.E., Mr. G. B. Cockburn, Major J. D. B. Fulton, R.F.A., Prof. A. K. Huntington, Mr. F. K. McClean, Mr. J. T. C. Moore-Brabazon, Mr. Alec Ogilvie, Mr. Mervyn O'Gorman, Mr. R. W. Wallace, K.C., and the Secretary.

The late Sir Charles D. Rose, Bart., M.P.—Col. H. C. L. Holden having been requested to take the Chair, said:—

"I am sorry to say that my task is a very sad one, namely, to report the death of our Chairman, Sir Charles Day Rose, Bart., M.P.

"You have all, no doubt, read the account of his almost tragic end, which occurred on Sunday afternoon, strangely enough, shortly after he had received his "baptism of the air," which was, I trust, merely a coincidence, and in no way connected with the cause of his death.

"Sir Charles Rose has been an ideal Chairman of the Royal Aero Club, combining as he did with the qualities of a leader those of a perfect gentleman and sportsman.

"By his untimely death the Royal Aero Club has suffered an irreparable loss.

"I think you will all agree that we should not proceed with the ordinary business to-day, but should pass a vote of condolence with Lady Rose and the family and then adjourn the meeting. I beg, therefore, to move the following resolution:—

"The Committee of the Royal Aero Club desire to express to Lady Rose their deep regret at the death of Sir Charles Day Rose, Bart., and their heartfelt sympathy with her in her bereavement.

"The Committee gratefully recognise the valuable services which the late Sir Charles Rose had rendered to the Royal Aero Club, and through it to the progress of aviation, and the Committee and every Member of the Royal Aero Club will mourn the loss of their Chairman, whose manly presence, combined with a clearness of thought and expression, firmness of purpose and a rare charm of manner, permanently endeared him to the hearts of all those who had the good fortune to be brought into contact with him."

Mr. R. W. Wallace seconded the resolution which was carried by the members of the Committee standing.

Messages of sympathy have been received by the Club from the Aero Club de France, the Aeronautical Society, the Aerial League, the Navy League, the Military and Naval Wings of the Royal Flying Corps, the Manchester Aero Club and Sir George White, Bart. (Chairman of the British and Colonial Aeroplane Co., Ltd.).

The funeral took place at Mapledurham on Thursday last, and among the many floral tributes was a wreath from the Committee and Members of the Royal Aero Club. The Club was represented by Col. H. C. L. Holden, C.B., F.R.S.; Prof. A. K. Huntington, Mr. F. K. McClean, Mr. R. W. Wallace, K.C.; and Mr. H. E. Perrin (Secretary).

A Memorial Service was held at the same time at St. Margaret's, Westminster.

Aviators' Certificates.—The following Aviators' Certificates have been granted:—

No.	Date.
453	March 31, 1913
	Engine Room Artificer Herbert Hackney, R.N. (Bristol Biplane, Royal Naval Aviation School, Eastchurch).
454	March 31, 1913
	Capt. G. W. Vivian, R.N. (Short Biplane, Central Flying School, Upavon).

ROYAL FLYING CORPS.

THE following appointments were announced by the Admiralty on the 17th inst.:—

Lieutenants P. A. Shepherd, to the "President," additional, for the Central Flying School, as Squadron Commander, and A. M. Longmore, to the "Acteon," additional, as Squadron Commander, to date April 16th.

The following appointment was announced in the *London Gazette* of the 22nd inst.:—

R.F.C.—Military Wing.—Second Lieutenant Claude G. S. Gould, Royal Artillery, to be a Flying Officer, and to be seconded. Dated April 3rd, 1913.

455	April 11, 1913	Leading Seaman G. R. Ashton (Short Biplane, Central Flying School, Upavon).
456	April 11, 1913	Sergt. H. C. Wright, R.F.C. (Short Biplane, Central Flying School, Upavon).
457	April 12, 1913	Lieut. T. W. Mulcahy-Morgan, Royal Irish Fusiliers (Bristol Biplane, Bristol School, Brooklands).
458	April 12, 1913	J. H. A. Landon (Bristol Biplane, Bristol School, Brooklands).
459	April 17, 1913	J. H. G. Torr (Caudron Biplane, Ewen School, Hendon).
460	April 22, 1913	Sub-Lieut. R. E. C. Peirse, R.N.V.R. (Bristol Biplane, Bristol School, Brooklands).
461	April 22, 1913	2nd Lieut. V. Waterfall, East Yorks Regt. (Vickers Biplane, Vickers School, Brooklands).
462	April 22, 1913	R. N. Wight (Vickers Biplane, Vickers School, Brooklands).

Public Safety and Accidents Investigation Committee.

A meeting of the Public Safety and Accidents Investigation Committee was held on Monday, the 7th inst., when there were present:—Col. H. C. L. Holden, C.B., F.R.S., in the Chair, Mr. A. E. Berriman, Major-General R. M. Ruck, C.B., R.E., and the Secretary.

Salisbury Accident (Geoffrey England).—The consideration of the report was resumed and deferred.

Reports of accidents to G. Hamel at Bangor on March 12th, M. Desoutter at Hendon on March 23rd, and Marcus D. Manton at North Acton on March 31st were considered.

Appointment of Representatives.—The following representatives of the Accidents Committee were appointed:—
Brooklands: Mr. F. Wright. Yorkshire: Mr. R. G. Macpherson.

Royal Aero Club Golf Matches.

A golf match has been arranged between the Royal Aero Club and the Royal Automobile Club, and will take place at Huntercombe on Thursday, May 15th, 1913. The match will be eight a side and will be played on handicap, singles in the morning and foursomes in the afternoon.

A further match has been arranged with the Isthmian Club for Wednesday, May 28th, at a course near London.

Members wishing to take part in these matches are requested to communicate with the Secretary at once, stating their handicap.

Balloon Contests at Hurlingham.

Balloon contests will take place at Hurlingham on:—

Saturday, May 31st, 1913. Saturday, June 28th, 1913.

Saturday, July 12th, 1913.

Full particulars as to these contests will be issued later.

Members are reminded that on the above dates they will be admitted free to the Hurlingham Club on presentation of their Royal Aero Club Membership Cards.

Mr. Hamel's Flight to Germany.

In connection with the splendid flight of Mr. Gustav Hamel from Dover to Cologne, on the 17th inst., the Royal Aero Club sent the following message to the Aero Club of Germany:—

"Hearty thanks from the Royal Aero Club of England for the very kind and sportsmanlike reception accorded our Member Gustav Hamel at Cologne."

166, Piccadilly.

HAROLD E. PERRIN, Secretary.

A Flying Corps for Liverpool.

A SPLENDID send-off has been given to the scheme for the formation of a Liverpool volunteer flying corps, proposed by the *Liverpool Evening Express*, by the offer of Mr. W. E. Cain and Mr. C. A. Cain, the heads of the well-known brewing firm, to provide one or two approved aeroplanes. An endeavour is now being made to raise a fund of between £3,000 to £5,000 to properly equip the new organisation, to provide hangars, workshops, and to secure the services of capable tutors for the proper instruction of the pilots. There is no lack of volunteers. In fact, there is every indication that there will be a great many more applications for enlistment than can be accommodated.

FROM THE BRITISH FLYING GROUNDS.

Brooklands Aerodrome.

ON Monday, last week, Lieut. Shepherd, R.N., with a mechanic as a passenger, made a good flight to Eastchurch on a new biplane (B.E. 47). Mr. W. L. Brock, on Tuesday, flew to Hendon in a 35-m.p.h. wind on the Deperdussin monoplane (25-h.p. Anzani). Mr. Merriam, on Wednesday, was away at Eastchurch, where he put one of the new Bristol biplanes (70-h.p.) through an excellent test, the machine easily rising right away to a height of 1,100 ft. in 3 mins., with full load (including passenger). The members of the Naval Flying Wing were very much impressed by the machine. On Thursday, Lieut. Reynolds (carrying Lieut. Atkinson as a passenger) came over from Farnborough on a Maurice Farman biplane, returning to Farnborough after a short stay.

On Sunday the record of the previous week was easily broken by the great crowds who trooped into the flying ground. Mr. Merriam was the first out, and performed some very graceful evolutions. Mr. Barnwell was next out on the Vickers monoplane, and made a long cross-country flight, rising easily to 3,000 ft., from which he made a well-judged landing in front of the people. Mr. Raynham was testing the new Flanders biplane. Mr. Barnwell and Mr. Knight were very busy with Vickers pupils, as also were Mr. Merriam and Mr. Bendall of the Bristol school, whilst several pupils made solo flights preparatory to passing their *brevet* tests.

Mr. Hamel flew over from Hendon on his single-seater Blériot monoplane, and met with a great reception, everyone being anxious to see the man who had made such a wonderful flight from Dover to Cologne. After giving several of his wonderful exhibition flights, Mr. Hamel returned to Hendon, just before six o'clock.

Next week two more new machines are expected to be out for testing, as the Vickers two-seater monoplane (80-h.p.) and the Martin Handasyde monoplane (150-h.p.) will then be ready.

Bristol School.—Monday, last week, Merriam up at 6 o'clock a.m. for test, then up in rotation to Lieuts. Hosking, Duncan and Broder, and Messrs. Grey and Strain, sitting behind the four latter pupils on straights. Also behind Lieut. Cogan on several straights, this pupil then going alone for first time, doing well, having three turns. Lieut. Peirce doing figures of eight, three turns, and practising landings *en vol plané*. After breakfast, Merriam for test, then giving tuition to Lieut. Duncan, and later to Mr. Grey, sitting behind.

Merriam giving exhibition flights at 4 p.m., then tuition behind Mr. Grey on straights. Later up with Lieut. Hosking, and with Mr. Strain, also with Lieut. Boteanau, a prospective pupil. Lieut. Cogan doing straights came down rather heavily, breaking skid. Lieut. Peirce on another machine for solo flight, then Merriam away in bomb-dropping, winning second prize. Afterwards for a high flight, reaching about 2,000 ft., with spiral descent to hangars.

Merriam out for test at 5.30 a.m. on Tuesday, then with Mr. Strain, afterwards with Lieuts. Hosking and Duncan and Mr. Grey; the two latter pupils doing two turns each. Lieut. Peirce, figures of eight, landing *en vol plané*. Merriam finished the morning with a short solo, as it was too windy for further tuition. Rain and wind for rest of the day.

On Wednesday, Merriam up for test at 5.45 a.m., then up with Mr. Strain for three circuits, and later landings. Afterwards behind Mr. Grey on several straights, later up with Lieut. Hosking. Bendall for test on another machine, then up behind Mr. Strain, for several. Later up with Mr. Grey and Lieut. Hosking. Merriam finished the morning's work by taking Mr. Strain for an instructive flight in a wind.

No flying all day Thursday, owing to high wind and rain.

Bendall up for test flight at 5.15 a.m. on Friday, on two different machines, then up with Mr. Strain; Mr. Grey, Major Merrick, Lieut. Hosking, for straights and landings, all three pupils being in the front seat, and having two long turns each. Lieut. Cogan doing straights, his landings being fairly good. Lieut. Ed. MacClellan for circuits. Lieut. Peirce doing figures of eight in very good style. He will go for his certificate this evening, weather permitting. These last three pupils had three turns each. Bendall finished the morning's work by taking up Lieut. Cogan to teach him landings.

Merriam up twice testing two machines at 5.15 a.m. on Saturday, before pupils arrived. Major Merrick was the first to be taken up with Merriam behind, teaching landings on straights. Afterwards he gave similar tuition to Messrs. Grey and Strain. In the meantime Lieut. Peirce doing figures of eight in a bumpy wind. Lieut. Ed. MacClellan on several straights, also Lieut. Cogan. Merriam was sitting behind Lieut. Hosking in straights, when it became suddenly gusty, which put an end to further flying. Wind and rain for rest of the day.

Bendall and Merriam out at 5.15 a.m. (Sunday) testing before pupils arrived. Afterwards Bendall was behind Mr. Strain on straights, whilst Merriam took Lieut. Hosking for tuition and up

behind Major Merrick on straights. Wind too bad for further work.

Merriam gave an exhibition flight in the afternoon, and then took Lieut. Strong out, a prospective pupil. Lieut. Broder was out for straights with Merriam as passenger, the latter also taking up Lieuts. Hosking and Cogan. Bendall up for a solo, then Lieut. MacClellan made a couple of good circuits.

Merriam's solo finished up day's flying.

Vickers School.—Monday, last week, Knight solo on biplane, then with Mr. Wight. Messrs. Wight and Waterfall alternately flying biplane, doing circuits, eights, and landing practice.

Barnwell on biplane next day with passenger, then Messrs. Waterfall and Wight alternately doing circuits, eights, and landing practice in 12-mile breeze. Later, when wind too high for pupils, Barnwell with Lieut. Blatherwick and prospective pupil.

Thursday, Barnwell on biplane with Mr. Andre, a new pupil. Knight testing No. 3 mono., then Lieut. Blatherwick good straights. Mr. Waterfall on biplane, followed by Mr. Wight, both doing good eights at, at least, 400 ft.; Mr. Andre promoted to front seat in first morning's instruction, doing good straights, with Barnwell and Knight alternately in rear seat. Mr. Waterfall—first with Knight behind, then alone—doing very well on No. 3 mono., getting off ground on first attempt. Barnwell and Knight flights on No. 5 Mono.; then Lieut. Blatherwick on same, promoted from No. 3, and doing well. During the forenoon Barnwell, with passenger, on No. 5, reaching 1,500 ft.

Barnwell solo, Friday, on biplane, then with Mr. Andre. Knight (pilot) testing No. 3 mono., then handing over to Mr. Waterfall, who did many good straights, rising to about 30 ft. Meanwhile, Mr. Andre, Barnwell behind, doing good straights in bumpy wind, quite ready to go alone when weather suitable. Lieut. Blatherwick on No. 3 very strong, then Mr. Waterfall further straights. He is quite ready for No. 5 machine. Barnwell on biplane giving joy-rides to Messrs. Andre and Wight, the rising wind making things quite lively.

Early Sunday morning, Barnwell and Lieut. Blatherwick joy-ride on school biplane. Mr. Waterfall then solo at a good height, doing eights in a bumpy wind, and finishing up with very good *vol plané*. The wind then getting rather bad for pupils' solo. Barnwell and Lieut. Blatherwick, followed by Knight and Mr. Waterfall each a few circuits. In the afternoon Barnwell flying No. 5, then on biplane carrying passenger. Knight on biplane carrying passengers till wind stopped flying.

Eastbourne Aerodrome.

THURSDAY, last week. Before breakfast, the weather conditions were ideal, and as no pupils had turned up, Fowler went for a joy-ride on his 50 Gnome-Blériot, being away for about 30 mins.

No flying was possible for pupils Friday and Saturday, owing to the wind being somewhat gusty. Fowler made one or two test-flights, but could not give any instruction.

The wind went down about 5.30 p.m. Sunday. Mr. Fry was the only pupil present, and Fowler was able to give him a considerable amount of instruction.

Monday there was very little wind all the morning, but a hot sun made the air bad, and no practice was possible. Towards 3 o'clock Fowler made two test flights but found conditions anything but pleasant as by this time the breeze had freshened considerably. Later on the wind went down, but unfortunately it commenced to rain, so everyone went home in disgust.

An early start was made Tuesday, and as all the pupils were present Fowler had a busy morning. Messrs. Rainey, Roberts and Morkill were given instruction in figure eights, and Mr. Fry was doing circuits with Fowler. Later on, Roberts, with Fowler in the passenger seat, went up to about 1,000 ft., at which height they circled round the outskirts of Eastbourne. After breakfast Fowler was out again with Messrs. Morkill and Fry, both pupils making very good progress. Later in the morning Fowler took up Mr. Rainey (a navigating officer of the R.M.S.P. Co.), who made some experiments with regard to the possibility of defining an aeroplane's position at sea, referred to on p. 452.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Mr. Major out Sunday last week at 6.35 a.m., doing straights on No. 7 under Instructor Noel, followed by Mr. R. H. Carr on same machine, both pupils getting in good practice. Monday, Mr. Manton out at 6.30 on No. 2B machine. Mr. Lan-Davis doing straights on same machine, also Mr. T. Bayetto, both under Instructor Manton.

Mr. Bayetto doing straight flights, Tuesday, on No. 2B machine at 6.15. At 6.25 a.m., Sir Bryan Leighton (new pupil) rolling on No. 7, with Instructor Manton in passenger seat. Mr. Major also out practising straight flights.

Too windy for school work Wednesday, but next day weather

good. The following pupils turned out, and all had a good morning's practice under Instructor Manton : Mr. C. Lan-Davis on No. 2B, Mr. Major on No. 7, Mr. A. G. Power on No. 7, Sir Bryan Leighton and Mr. Tone Bayetto.

Blériot School.—Most of last week has been too windy for any work to be done outside the sheds, but on Thursday morning before the wind rose, some practice was enabled to be done by several of the pupils. There being a little wind, Mr. Seymour Metford took No. 3 up for a few trial circuits to see if it was fit for pupils, and finding conditions up aloft perfect, sent Mr. Reilly up for a circuit, which he did quite well at about 80 ft., landing very well indeed. Mr. R. Desoutter followed, and found the wind had risen a trifle, giving him some trouble in making a nice landing. Mr. Clappin was then going up for circuits when the wind became much stronger, so he taxied the machine back to the sheds.

The mechanics have been very busy during the week taking down and tuning the 50-h.p. Gnome in No. 5 machine, which is now pulling excellently.

British Deperdussin School.—Monday last week school opened at 5.30 a.m., Lieut Bourke straight on No. 3, doing quite well. Nice even straights, landings a bit shaky at present. Mr. Bauman straights 5 mins. on same machine ; switchbacks in the air but landings fairly good. Mr. Miller (new pupil) joined school but did not have a lesson.

Wind too strong for school work next day. Mr. Brock brought No. 5 machine (35-h.p.) back from Brooklands in 17 mins., stiff wind at start, half way across ran into calm air and was shot up about 300 ft.

Wednesday, wind too strong for school work. In afternoon tested Aero Show 60-h.p. engine, mounted on two-seater machine, which has recently been thoroughly overhauled. Engine ran splendidly, developing well over 1,200 revs.

Thursday, before breakfast, Mr. Spratt testing conditions on No. 5 for 10 mins., then Mr. Whitehouse made two very fine flights of 16 and 18 mins. each on No. 5 racer, his first time on this machine. Reached altitude 400 ft., very good steady flights. At 11 a.m. Mr. Spratt took out the 60-h.p. two-seater (for the first time after her overhaul) in a 10-35 m.p.h. wind, and made a very fine flight

for an hour, reaching an altitude of 1,150 ft. This machine flies very well, and engine pulling well up to its h.p. At 3.30 Mr. Spratt out again on same machine for a 30 mins. flight in nasty gusty wind. He handles the machine perfectly. Very fine flight.

No work Friday and Saturday owing to weather conditions.

Sunday, at 3.30 p.m., Mr. Whitehouse took up No. 5 35-h.p. racer, and made a very fine exhibition flight, lasting about 25 mins., going well out into the country. Over Harrow he attained an altitude of 3,000 ft. finishing with a glide from 2,000 ft., a splendid flight. Mr. Spratt then took up the 60 and made a 35 mins. flight over Harrow and Edgware, followed by Signor Nardini, who took up Capt. Tyre and several other passengers.

W. H. Ewen School.—A considerable amount of work was put in last week, notwithstanding the continuance of unfavourable weather. On Monday, the pupils were out at 5.45 a.m., when Mr. Turner, after test flight on 35-h.p. Caudron No. 1, handed the machine over to Mr. M. Zubiaga, who made several good straight flights. M. Baumann, after testing the 35-h.p. Caudron No. 2, handed the machine over to Lieut. G. Adams, who got in some good practice in short flights. Mr. L. H. Jagenberg had his first instruction in rolling on the same machine.

On Tuesday, the pupils were out at 5.50 a.m. under the instruction of Mr. L. W. F. Turner on the 35-h.p. Caudron No. 1, who, after a test flight, handed the machine over to Messrs. Torr and Stewart, who were both doing excellent circuits. Later, Mr. Turner was out on the 60-h.p. Caudron, taking with him Lieut. G. Adams as passenger for air experience.

The pupils were out at 5.40 a.m. Thursday, under the instruction of Mr. Turner and M. Baumann, when an excellent morning's practice was put in. M. Baumann, after testing the 35-h.p. Caudron No. 2, handed the machine over to Messrs. Prosser, Gooden and Gist, who were all doing good straight flights, Lieut. G. Adams rolling and doing short flights, while Mr. Pendlebury was rolling on the same machine. Lieut. U. C. Hicks, a new pupil at the school, had his first instruction in rolling. Mr. Turner, after test flight on the 35-h.p. Caudron, handed the machine over to Messrs. Stewart and Zubiaga who were doing circuits in good style. The event of the morning was another Caudron *brevet*, successfully



A school group at the Bristol Flying School, Amesbury, Wilts., showing just a few of the pupils grouped round one of the two-seater biplanes. Reading from left to right: Mr. Jullerot, pilot; Mr. David Tod, pupil, who is flying the monoplane excellently; Lieut. Marshall, pupil; Lieut. Chidson, pupil; Mr. C. H. Pixton; Herr Paschen, a pilot of the German Bristol School; Mr. Fellows, of the Bristol Co.; Mr. Harrison, pilot; and Lieut. Bromet, R.N., pupil.

passed by Mr. Torr, who, flying at an average altitude of 200 ft., passed the tests in an excellent and confident manner, landing close on the mark. During the afternoon Mr. Turner made several passenger flights on the 60-h.p. Caudron.

On Sunday the pupils were out at 6.10 a.m. It was found to be too windy for pupils' flying practice, but Lieut. G. Adams got in some rolling on the 35-h.p. Caudron No. 2 under the instruction of M. Baumann. During the afternoon Mr. L. W. F. Turner was doing some good solo flights on the 60-h.p. Caudron, and also made several passenger flights. M. Baumann put up some excellent flights on the 35 Caudron, rising to 2,500 ft. and finishing with a long glide.

Temple School.—On Thursday last week, under the supervision of Mr. G. L. Temple, A. Vaile, R. Penny and M. Lance each had 20 mins. on Blériot No. 2, making good progress on straights; D. Ritchie also put in 10 mins. rolling on Blériot. Wind prevented any school work on Friday and Saturday, but on Sunday Mr. G. L. Temple made several exhibition flights, being up continually on the Caudron biplane during the afternoon, later in the evening remaining at 600 for 15 mins., and finishing the flight with one of his fine steep *vol plan*s. At 4.45 a.m. on Monday, Mr. G. L. Temple was out testing the new 45-h.p. Blériot, which has been built in the school, but after being out a few minutes rain prevented further flying. In the evening, several pupils came out on Blériot No. 2, Messrs. Vaile and Lance rolling; later, D. Ritchie flew a straight in a promising style. On Tuesday evening, Mr. G. L. Temple was again out testing the 45-h.p. Blériot.

Salisbury Plain.

Bristol School.—Wind and rain prevailed all day on Monday, last week, rendering flying impossible. High wind all day on Tuesday, weather too bad for tuition, busy on machines in hangars.

Weather had improved first thing on Thursday, and Pixton out



HAMEL FLIES FROM

AMONG the many extraordinary flights which have been accomplished, certainly not the least epoch-making, inasmuch as it was the first flight from England to Germany, was that made by Mr. Gustav Hamel last week, with a passenger, from Dover to Cologne. Starting from the Dover Aerodrome (accompanied by Mr. F. Dupree, of the staff of the *Standard*, by whom the arrangements for the flight had been made), he left Dover at 12.40 p.m. Making his way across the Channel, the French coast was picked up just south of Dunkirk, and then a course was set by the aid of the compass for



FLIGHT.

Mr. Gustav Hamel and his passenger, Mr. Frank Dupree, of the *Standard*, at the Dover Aerodrome, prior to their remarkable flight to Cologne last week on a military Blériot monoplane.

early for a trial, after which he gave tuition to Mr. Marshall, taking him first round Fargo and then for several wide circuits. Pixton later made a couple of flights in the new Bristol tractor biplane. Mr. Tod was up for a solo on the side-by-side monoplane, making a good flight. By this time wind had risen considerably, and, with occasional storms of rain, outside tuition work had to be abandoned for the day. On Friday and Saturday wind and rain baffled all attempts at flying, and attention was turned to the machines in the hangars.

Royal Flying Corps (No. 3 Squadron).—On Tuesday, of last week, the weather conditions were most unfavourable for flying, and Wednesday was but little better, but in the evening, at 8.55, Lieut. Cholmondeley, on Maurice Farman biplane 270, with Lieut. Anderson as passenger, took off to a fair height, and flew over to the Central Flying School at Upavon and back, making a perfect landing at 9.50, after a moonlight trip of 55 mins.

Thursday saw a change in the weather, and the R.F.C. officers put up some real good flying work. Lieut. Cholmondeley starting the work with a "joy ride" of 45 mins., with Sergt. Bruce at the controls, on Maurice Farman 214. Sergt. Ridd then took over the machine and put up a fine flight to Andover and back at a useful height, being in the air three-quarters of an hour. Major Higgins out on Henry Farman biplane 275, with Lieut. Allen as passenger, for 15 mins., and one flight alone of 5 mins. He was afterwards up with Lieut. Christie as passenger for 45 mins., to observe the artillery live shell firing. Lieut. Cholmondeley on Maurice Farman 270, with Capt. Connor as passenger, went up very quickly to a great height, and headed off towards Dorton in Oxford.

During Friday there were boisterous treacherous winds, but Capt. Fox arrived with a new B.E. 273 from Farnborough at 12.45, having done the journey in 1½ hours. On Saturday and Monday, wind and rain confined all activity to sheds.



DOVER TO COLOGNE.

Mechlin. Across Belgium and Holland the military Blériot sped its way, but the storms which had to be passed through put the pilot out a little in his reckoning, and when the Rhine was sighted it was at a point about 60 miles north of Cologne. This deviation lengthened the journey considerably, but Cologne was safely reached at 4.58 p.m., and on alighting the English travellers were courteously received by the German officers. The duration of the flight was 4 hrs. 18 mins., and the distance as the crow flies from point to point is 245 miles. In view of the deviation, Mr. Hamel estimates the distance covered at 320 miles. Altogether, Mr. Hamel passed over five countries.

The Blériot monoplane which was used was fitted with an 80-h.p. Gnome motor, which, by the way, was equipped with the famous F. and S. ball-bearings. The fuel used was Shell spirit, of which forty gallons were carried, and there was sufficient left at the journey's end to cover another 100 miles, a distance which would have taken the aviator well out of the German Empire. For lubrication purposes Wakefield "Castrol" was used.

The Machine for New Zealand.

HAMEL'S great flight from Dover to Cologne was arranged by the *Standard* in conjunction with the Imperial Air Fleet Committee, of which Lord Desborough is President, and on the conclusion of the flight the aeroplane was offered to and accepted by the New Zealand Government. A fund has now been opened with the object of paying for the machine, the cost of which has been in the meantime guaranteed by the *Standard* and Messrs. Wm. Coward and Co., Ltd.



Willows Aircraft School.

MONDAY last, balloon ascent from Old Welsh Harp, Hendon. Mr. Willows, accompanied by three pupils, Mr. H. Barber, Capt. Bernal, and Mr. R. W. Crocker, left at 4 o'clock in a 50,000 cu. ft. "spherical," with a south wind. The balloon drifted over St. Albans Cathedral just as the clock was striking five. Luton was passed over soon after six, and a landing was effected at Streteley, a few miles beyond Luton, at 6.30. Weather hazy, with occasional rainstorms.

Mr. Hewitt at Work Again.

ON Tuesday Mr. Vivian Hewitt was flying at Rhyl for over an hour, testing the Blériot which he has rebuilt, as described in FLIGHT recently. The machine flies very well indeed, and does not seem to be affected by the extra weight. As regards speed, Mr. Hewitt writes: "She seems, if anything, a little faster; but this is no doubt due to the streamline body. Taking the machine all round, she is all that could be desired as efficient; and, as regards strength, it is without doubt more than twice as strong as it was originally."

QUESTIONS IN PARLIAMENT.

ON the 16th inst. in the House of Commons, Mr. Joynson-Hicks asked the Prime Minister whether he was aware that there was anxiety in the country as to the number and efficiency of the aeroplanes belonging to the Royal Army Flying Corps; and whether, having regard to the refusal of the Secretary for War to give further details of these machines, he would consent to the appointment of a small committee, independent of the present officials, to make such investigations as would reassure the public.

Mr. Asquith: The matter is receiving the continued attention of His Majesty's Government, who are able to avail themselves of the best expert advice on the subject. I see no reason for the appointment of the committee suggested.

Mr. Joynson-Hicks asked the Secretary for War whether his new perfect aeroplane had met with an accident, and, if so, what was the cause, and whether the machine was really in its experimental stage; also whether his statement that the new army aeroplane was the best in the world was made on the authority of his technical advisers, and whether they still adhered to that description.

Col. Seely: The hon. gentleman is presumably alluding to a new machine, of whose successful speed tests I informed the House on the introduction of the Army Estimates. This aeroplane is temporarily out of use, owing to a breakage in the engine. The description given of it was based on information supplied to me by my principal technical adviser.

Mr. Joynson-Hicks: Is not the machine really in its experimental stage at the present time?

Col. Seely: It performed the remarkable feats which I described to the House. I should be glad if the hon. gentleman would himself take a flight in it.

On the following day, Mr. Charles Bathurst wished to know whether the Government had contracted with any of the vendors of land in Wiltshire, required for the purposes of their new flying ground, not to charge increment value duty in consequence of the sale of such land to the Government at a profit of £20,000.

Mr. Harold Baker (Financial Secretary to the War Office): No such contract has been made.

Mr. Middlemore asked the First Lord of the Admiralty whether any aeroplanes, hydro-aeroplanes, or other types of aerial craft, were attached to any of the fleets or squadrons in home waters; and, if not, whether he would, in view of the fact that the speed of an aeroplane was approximately twice as great as that of a destroyer, take the necessary measures to ensure that our fleets were equipped with these craft for scouting purposes.

Mr. Lambert (Civil Lord of the Admiralty): This question is being made the subject of investigation and experiment.

Mr. Middlemore also enquired whether the principal dockyards, arsenals, and naval bases in this country were within the nominal radius of action of the German airships of the Zeppelin type acting

from the German coast; and whether our fleets, dockyards, and arsenals were provided with defensive equipment against aerial attack by means either of aircraft or of anti-aircraft guns.

Mr. Lambert: The reply to the first part of the question is in the affirmative, provided that the conditions are favourable. With regard to the second part, defensive measures are being taken for dealing with aerial attack.

Mr. Middlemore: Can the hon. gentleman tell us what is being done in order to allay the anxiety felt?

Mr. Lambert: I do not think that would be very wise.

On Tuesday, Capt. Murray asked the Secretary for War whether his attention had been called to a public statement made by Lord Montagu of Beaulieu, that the War Office was in possession of only 43 aeroplanes instead of 101, as stated by him (Col. Seely), and whether this statement was accurate.

Col. Seely replied as follows: Yes, sir; my attention was at once called to the statement. Lord Montagu has written me the following letter:—

"April 21st, 1913.

"Dear Seely,—I was very glad to receive your invitation to come to the War Office to-day and to inspect there the documents supplied by your official advisers, and to meet the general officer who is charged with the administration of the Royal Flying Corps.

"I am now fully convinced that the number of aeroplanes you have publicly stated represents those really available. I am glad to know that the number is, at the present date, in excess of the 101 you stated on March 19th were then in possession of the War Office.

"I quite appreciate the necessity for secrecy in these matters, and understand how misapprehensions may have arisen, and regret that I gave publicity to erroneous figures.

"I am glad the matter has now been cleared up as regards numbers, but you will, I know, allow me to continue to urge upon the Government and upon the public in general the absolute necessity for better provision for military and naval aviation, especially in matters pertaining to housing and transport.

"I should be glad if you could read this letter to the House of Commons at the first possible opportunity.

Yours sincerely, MONTAGU OF BEAULIEU."

I trust, added Col. Seely, that this complete statement may put an end to reflections on the good faith not merely of myself but of the distinguished officers and public officials on whom, as everyone knows, I must largely rely in giving figures to this House. At the same time the House will permit me to acknowledge most warmly the characteristically prompt, frank, and straightforward manner in which Lord Montagu has dealt with this question.

Army and Private Aircraft.

IN the House of Commons on the 16th inst., on the discussion on Clause 5 of the Army Annual Bill, which gives power to the authorities to commandeer aircraft in case of necessity,



MR. GUSTAV HAMEL'S DOVER TO COLOGNE FLIGHT UNDER THE AUSPICES OF THE STANDARD.—A group of interested enthusiasts who saw Mr. Hamel and his passenger off. From right to left, in front: Messrs. Robert Slack, C. J. Fairfax Scott (Hon. Sec., Imperial Air Fleet Committee), Goudre, J. Cates, H. M. Parker.

Capt. Craig asked for an assurance that the clause allowed for the taking over of all appurtenances, spare parts, aerodromes, and patents necessary for each particular class of machine. Though the Secretary for War always took a very smiling view of aviation, the experts, who were in the best position to know, had denied the accuracy of the right hon. gentleman's figures. The Secretary for War was such an optimist that he could gloss over everything of this sort, but those outside the House, who really knew what was going on, were gravely concerned with regard to this branch of the service. He also wanted to know whether the new type of machine, which was used largely for skimming over the surface of water, but which made short rather than prolonged flights, was to be included under the term aeroplane.

Col. Seely said with regard to the latter point the term aeroplane covered all types of flying machine, including hydroplanes. He did not think the Committee would wish him to deal with the question of how many aeroplanes the Army had in its possession, except to say that the Secretary of State naturally had to rely on the statements made to him by the distinguished officers who supervised the arrangements. He had himself special knowledge of the case, and he had no reason to doubt the accuracy of the information given him by those officers. He did not think its accuracy was doubted in any responsible quarter. He would always be glad to give the House any information regarding the aircraft in the possession of the Department, so far as was consistent with the public interest, but a great deal of the aeronautical service must be regarded as confidential; it was almost entirely so regarded in other countries. He would be very glad to give all the information he had, except as to the types of the machines. He was advised that the War Department would have power under this section to obtain the necessary appurtenances for aeroplanes.

The powers which they sought were not asked for because they wished to perform high-handed acts, but because such powers were a universal rule in time of extreme danger to the State; as the House of Commons had given such powers in all other respects, it would naturally wish to do the same in regard to aircraft. With regard to securing co-operation for building aerodromes, they had gone some way in that direction, and were now, he hoped, in a position to go much further. The Royal Aero Club had given them the greatest assistance in this as in many other matters, and had now appointed a special committee, on which the War Department were represented, with a view to securing complete co-operation between that department and the different civilian aerodromes, which would enable the department to have the advantage of using those aerodromes on suitable payment. He would be glad to make a further statement when this special committee had made a report. So far they had only made an interim report, and were further considering the matter.

The bill passed through Committee, was reported to the House, and was afterwards read a third time.

On the following day it was considered in the House of Lords, and Lord Lovat said: The subject of the command of the air was not treated as he would like it to be treated by the Government. The position was most serious. What were the numbers of "Zeppelins" and semi-rigid dirigibles here and in Germany? How long did the Government think it would be before we could compete with Germany on equal terms in regard to this new science? The dirigible had much more offensive and defensive power at sea than on land. At present there were between 20 and 27 dirigibles in Germany able to fly to this country, and to drop dynamite into our harbours, dockyards, and arsenals. We had nothing but two semi-rigid to meet the danger which threatened in that respect. We were unable to send wireless messages by aeroplanes. On the other hand, should war break out, their aircraft would be able to follow our great vessels as they steamed about, and to communicate by wireless with their submarines, and thus they would have every opportunity of reporting the movements of our fleets. When they considered the damage which might be done, and at the same time the strain imposed on the crews of our ships, by the knowledge that they might be watched while having no corresponding means of watching the enemy's vessels, it would easily be seen that the dice had been more and more loaded against us.

Everyone who read the recent speech of Col. Seely would go away with the idea that Germany had only 150 aeroplanes compared with our 101. Germany had 600 aeroplanes, and probably considerably more. Was it right to the taxpayers, who maintained officers at the War Office to make enquiries, that Col. Seely should quote the figures of 150 from the *Morning Post* in order to bamboozle the country, instead of asking his military advisers what were the facts?

Lord Herschell said that with regard to aeroplanes the statement made by Col. Seely in the House of Commons was perfectly accurate. At the same time, it was important to realise that, though we might have a certain number of aeroplanes, it was inevitable that a certain proportion should be under repair owing to

the damage which occurred from time to time. This damage took anything from three days to a month to repair. It was also worth pointing out that the fact of the damage arising was only a proof that these machines were being used as they should be—for practice. It was perfectly true if they had a flotilla of torpedo destroyers, and kept them in harbour, they were quite safe from casualties, but it was essential they should be used and that practice should be undertaken. Then, again, a certain number of instructional machines, though adapted admirably for their purposes, could not, owing to their lack of speed, be said to be entirely suitable in time of war. There was also a certain number of monoplanes which, owing to the fact that they did not meet all the requirements which had been laid down by the War Office Committee on Monoplane Accidents, it had been decided not to use in time of peace until certain alterations had been made. At the same time, they had pilots capable of flying these machines. At present the War Office had no intention of ordering any more aeroplanes which did not meet the requirements of the Committee on Monoplane Accidents so as to permit of their being used in time of peace for practice. The qualities which had been shown by the biplanes recently constructed had proved that in every essential particular they were capable of achieving good results, comparable with monoplanes, and in respect of range of speed, which was the most vital point of any war machine, they had shown a marked superiority. The programme of construction was being considerably accelerated, but it was important to bear in mind that in carrying out that programme it was not only necessary to get aeroplanes or pilots, but they had to provide transport. There had been considerable difficulty found in providing the transport for the military wing, but in this matter a satisfactory decision had now been arrived at, and large orders had already been placed. In the meantime arrangements had been made for providing the necessary transport, prior to purchase, of those squadrons which were so far complete in other respects as to be able to take their place with the Expeditionary Force on mobilisation. Naturally, these arrangements were constantly subject to a revision as the growth of the Flying Corps made a larger contingent possible. It was no use having aeroplanes unless they had sheds to house them and barracks for the officers and men. Arrangements were in progress, and some had already been completed, for stations specially adapted for experimental work. Repair sheds and tools were also necessary. It would be detrimental to the efficiency of the Flying Corps if all these things were not provided.

With regard to airships there were two points of view: (1) The Expeditionary Force, and (2) home defence. With regard to the former, from the very first they were met with a very serious difficulty that airships, and especially large airships, and, above all, large rigid airships, required large airships, which took a considerable time to build. Our Expeditionary Force being designed for service to all parts of the world, we were in a different position from countries with co-terminous frontiers, who were able to erect in time of peace large sheds at various strategic points. The Government had, therefore, concentrated their attention upon small portable airships which could be transported to any place overseas, and would be housed in sheds which were themselves portable and could be erected in a short time. With regard to home defence, as to which our policy to a large extent was one of passive defence so far as the Army was concerned, we required overseas reconnaissance. That, in the opinion of the Government, would be the function of the Admiralty. With reference to the preparation being made against aerial attack by airships, he could only say this was a matter which had been engaging the attention of all those concerned for many months past, and that they had devised various steps to meet this danger. He hardly thought their Lordships would expect him to go into details on this particular point, because it was obviously contrary to policy to state what preparations were being made. But this he could say, that not only the War Office, but the Admiralty, were taking every possible step to meet the dangers which might arise from the visit of the hostile airship. At the same time it must be remembered that the whole problem changed from day to day, and that the flying machine at present was only in its infancy, but the Government were doing all in their power to make use of the best brains and the best scientific thought in the country. Turning to the broad principles of aerial construction, the air service both naval and military was one, but the Government had decided that there should be a broad line of revision, and that the lighter than air service should be undertaken by the Admiralty, and the heavier than air by the War Office. The rule, however, had its exceptions. The Army had decided to retain for the present, at any rate, the small airships for the Expeditionary Force. The Navy, on the other hand, would make use of such portions of the hydro-aeroplane service as might be required to meet every point of view which they had to consider. But the main principle to which he would draw attention, was that the Navy and Army would co-operate completely in any problem of aeronautics.

"LONDON DAY," HENDON.

"LONDON DAY," which was held at Hendon last Saturday under the patronage of the Lord Mayor, Sir David Burnett, who was accompanied by several members of the Corporation, was a great success, in spite of the fact that a strong wind prevented the full programme of races that had been arranged from taking place. Fortunately the weather was otherwise exceptionally fine. A number of Mayors of the Metropolitan Boroughs also attended, whilst amongst the visitors were to be seen many well-known and influential personages, such as Viscount Peel, Sir John Bell, Sir Melville Beachcroft, Sir Vesey Strong, and Sir George Truscott, to mention but a few. Shortly after 3 o'clock, Pierre Verrier ascended on the new 70-h.p. Renault-Maurice Farman biplane, and made a magnificent flight in a tricky wind which was steadily increasing in strength. He was followed shortly after by Manuel Chevillard on the 80-h.p. Henry Farman biplane. Chevillard not only showed his distinguished visitors his wonderful dives, but incidentally demonstrated the marvellous control he has over his

machine, for during his first dive a gust of wind caught the biplane when it was banked to its utmost, causing an unpleasant looking side-slip. It seemed to be only a few feet from the ground that Chevillard brought the machine to an even keel. The next time he commenced his dive higher up. After this, Gustav Hamel who was, perhaps, the hero of the day in view of his record flight to Germany a few days previously, started off on his single-seater 50-h.p. Blériot monoplane. Starting against the wind, the monoplane made little headway, but rose very quickly. The spirals which he eventually attempted were very peculiar, for helped by the wind half was carried out in the orthodox style, but when the monoplane headed to wind it appeared to be abruptly checked and remained for a short space of time almost stationary and banked over. For fifteen minutes he remained aloft, reaching an altitude of about 2,500 ft., and finally descending with a splendid spiral *vol plané*. After landing he was warmly congratulated by the Lord Mayor, who then made an inspection of the machines, under the guidance of Mr. Claude Grahame-White. In the meanwhile Collardeau was out on the 110-h.p. Canton Unné-Breguet biplane, but an obstinate engine prevented anything but a short flight from being made. An unofficial speed handicap over six laps of the aerodrome was then arranged between Chevillard and Verrier. A start was made against the wind near the railway, Chevillard being at scratch and Verrier receiving 45 secs. start. Both pilots made remarkable banked turns, and their speed with the wind past the enclosures was astounding to behold. Verrier kept the lead all the time, winning by 10 secs. Both continued making circuits of the aerodrome for some time. Hamel next came out on his 50-h.p. Blériot with the intention of making an altitude flight. He climbed steadily for some considerable time, until he was but a speck in the

sky. At times he disappeared from view in a kind of mist, which, he told us afterwards, was snow. Indeed, so cold was it, that when at over 7,000 ft. the oil in the gauge glass froze, breaking the glass to atoms, so a descent had to be made at once. Hamel, covered with oil, received an exceptional ovation when he landed—the crowd being frantic with excitement—and the Lord Mayor again congratulated him. Verrier made a passenger flight on the Maurice Farman while Hamel was up, and, except for a short flight by Chevillard later in the evening, this completed the flying for the day.

In the course of a speech during the afternoon, the Lord Mayor said that he took a great interest in aviation, which was a science of very great importance to all countries, but more especially Great Britain.

Sunday turned out to be a glorious day, so much so that there was even a bigger crowd in attendance than on the Saturday, which is saying a great deal. It was also a record day for flying, for from shortly before 3 o'clock until 6 o'clock, no fewer than 50 flights were made by 13 different



LONDON DAY AT HENDON.—The Lord Mayor leading the way across the aerodrome, followed by Mr. Grahame-White.

"Flight" Copyright.

pilots on as many different machines. At one time eight machines were in the air at the same time. It would be quite impossible to give a description of these flights, and we can but give a list of the pilots and their machines: M. Chevillard (80-h.p. Henry Farman biplane); P. Verrier (70-h.p. Maurice Farman, two being out); Collardeau (110-h.p. Breguet biplane); Lewis W. F. Turner (60-h.p. Anzani-Caudron biplane); Baumann (35-h.p. Anzani-Caudron biplane, flying high and steadily); G. L. Temple (35-h.p. Caudron biplane, flying well); Louis Noel (60-h.p. Anzani-Grahame-White tractor biplane—Show machine—carrying passengers); Marcus D. Manton (70-h.p. Gnome-Grahame-White biplane); A. Cheeseman (35-h.p. Anzani-Blériot monoplane, handling this machine in a marvellous manner considering the small power at his disposal); Spratt (60-h.p. Anzani-Deperdussin monoplane); Jules Nardini (60-h.p. Anzani-Deperdussin monoplane); Hawker (40-h.p. A.B.C.-Sopwith-Wright biplane); and Gustav Hamel (50-h.p. Blériot monoplane). The latter left for Brooklands at about 4 o'clock, taking 19 mins. for the journey, and returned to Hendon at about 6 o'clock in 13 mins.

It will be seen from the foregoing that Jules Nardini, who has recently been interested in automobiles, made a welcome reappearance, and during his several flights (some with passengers, including Capt. Tyrer) he showed us that he had lost none of his old skill. Shortly after 5 o'clock, Manton, with a passenger, left for Farnborough, on the 70-h.p. "G.-W." bus, arriving there safely in about an hour. Louis Noel also started for Farnborough (accompanied by a passenger) on the tractor biplane, but engine trouble developed just as they were going well. One of the visitors of some note was Sir Charles Rose, whose tragic death is announced elsewhere.

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WINGED AIRMEN: THE ROOKS.

Beyond the smoke of chimneys,
Above the roar of trade,
Rise the dauntless aeronauts
Never afraid.

Circling round the aerodrome,
Making straightest flight,
Steer the steady aeroists
Homewards at night.

Forth in early morning
From the tree-top village
Drop the knowing airmen,
Bent on pillage.

Noiseless are their monoplanes,
Strong, but light as feather.
Careless are the aeronauts
Of roughest weather.

April 17th, 1913. LLOYD ST. CLAIR.
(Italian papers please copy.)

Where the lissom branches sway
Near the tree-tops bare,
There's an aviators' village
In the upper air.

The sun, wind, and rain
May shine, blow, and fall,
The airmen in the elm trees
Care not at all.

FOREIGN AVIATION NEWS.

The L.N.A. Honoured.

IT is announced that M. Poincare, the President of the French Republic, has consented to become Honorary President of the Ligue Nationale Aerienne, which is doing so much to keep aviation to the front in France.

Daucourt's Paris-Berlin Flight.

IN our last issue we were able to publish brief particulars of the splendid record flight of Daucourt on his Borel monoplane from Paris to Berlin, and a few further details may now be given. Daucourt started from Villacoublay at 5.30 a.m. on Wednesday week, and, steering a course by Maubeuge, went on to Liege where he landed at 7.40, his time for the 340 kiloms. being 2 hours 34 mins. He was away from Liege again at 9.30 a.m., and reached Hanover at 1.45 p.m. The last stage was commenced at 3.38, and was completed at 6.33 p.m., when Daucourt made a fine landing on the Johannishalb ground, and was greeted by Major von Tschudi and officials of the Imperial German Aero Club. His flying time for the distance of 895 kiloms. was 7 hours 40 mins. The monoplane was fitted with a 50-h.p. Gnome motor and Rapid propeller.

Audemars' Unsuccessful Attempt.

A QUARTER of an hour before Daucourt left Villacoublay, Audemars on a Morane monoplane had started, and he made a fast trip to Mexieres, doing the 210 kiloms. in 1 hr. 25 mins. He started again at 7.30, and passed over the Ardennes at a height of 1,800 metres. He eventually landed at Wanze, in Westphalia, at 11.30, and during the last 100 kiloms. had to literally fight his way against the wind. It was on this account that he determined to stop for the night, and as the next morning was no better he decided to abandon the attempt.

The Pommery Cup.

THE splendid flight of Daucourt places him first in the fifth half-yearly competition for the Pommery Cup. It is interesting to recall that the first prize in 1911 was won by Vedrines with his trip from Paris to Poitiers: 336 kiloms., in 3 hours 10 mins. The second 1911 prize was also secured by Vedrines with his Paris to Angouleme trip: 400 kiloms. The first prize of 1912 fell to Bedel for his flight from Villacoublay to Biarritz: 645 kiloms. while the second 1912 prize was won by Daucourt for flying from Valenciennes to Biarritz, a distance of 852 kiloms.

A German Aeroplane in France.

THE neighbourhood of Lunéville appears to have some special attraction for straying German aircraft, but the landing of a German aeroplane on Tuesday has not been regarded quite so seriously as the landing of the Zeppelin a couple of weeks previously. The aeroplane, which was piloted by Lieut. von Mirbach, and carried Capt. von Dewall, started from Darmstadt at 5 a.m. on a trip to Metz, but owing to a fog got out of its course in the neighbourhood of Dieuze. On landing to find their whereabouts, the aviators were very surprised, to say nothing worse, to find they were at Arracourt, near Lunéville, and in French territory. They were at once interrogated by the civil and military authorities, and as the result of an official enquiry they were allowed to fly on to Metz later in the afternoon.

Franco-German Frontier Regulations.

FOLLOWING the two incidents near Lunéville, the French Government, through their Ambassador in Berlin, has drawn the attention of the Imperial Government to the repeated landings of German balloons and aeroplanes in France near the frontier, and to the serious inconveniences that might result from these regrettable incidents. M. Cambon has been instructed to request the German Chancery to take steps to prevent a recurrence of these events. Pourparlours have besides been entered into between the two Governments to reach as quickly as possible an agreement laying down the rules to be followed in case of any difficulties arising in connection with aeronautics.

A French Officer in Switzerland.

ANOTHER frontier incident occurred on Monday, this time to a French officer, which, although not greeted with delirious delight by the Swiss authorities, had not the significance which attaches to such little episodes in connection with certain other Continental frontiers. Lieut. Gaubert started from Is (Haute-Marne) and after making a landing at Dijon, went on with the intention of getting to Belfort. He, however, lost his way above the clouds and, after passing over the three Swiss lakes, Morat, Bienne and Neuchatel, landed at Wavre, near Neuchatel. After dismantling his machine, he returned to France the following morning by train.

Russian Officers at Chalons.

A PARTY of highly placed Russian officers visited Chalons Camp on the 15th and 16th inst., and were very much interested in

the flying of the Henry Farman machines, there being a dozen of them in the air at various times. Several of the Russian officers were taken up by Lieuts. de Gensac and Damberville, and had a good opportunity of appreciating the value of aeroplanes from a reconnaissance point of view, as some artillery trials were being carried out on the camp.

Long Flight by Vidart.

STARTING from Nevers on his Rhone-engined Morane monoplane, Vidart passed over the Cevennes, which are 1,500 metres high, and then making his way by Cluny, Digoin and Paray-le-Monial, reached Lyon. He made only a very brief stop there and then went to Amboise, the total distance flown being about 300 kiloms. On the 16th, Vidart started from Villacoublay to fly to Marseilles, but had to give up at Savigny-sur-Loire on account of the bad weather.

English Officers at Farman School.

AT the Farman School at Etampes, on the 17th inst., the two British officers, Messrs. George and Frederick Leith each made in splendid style the three tests necessary to qualify for their certificates. They carried out the various manoeuvres with an ease and certainty which augurs well for their future careers as pilots in the Army.

A Good Flight at Morane School.

BY way of finishing up his period of instruction at the Morane School at Villacoublay, Lieut. Blamont, on the 17th inst., made a flight of an hour and a-half's duration at an altitude of 600 metres.

Champel Back at Juvisy.

AFTER his record passenger flights at Orleans, Champel, on Saturday last, mounted his biplane, which has a 100-110-h.p. Anzani motor, and accompanied by his wife and mechanic, not to mention 50 kilogs. of baggage, flew back to his headquarters at Juvisy.

More Deperdussin Superior Pilots.

LIEUTS. GAUTHIER AND LAMOIE, on their 50-h.p. Deperdussins, each made a 200 kilom. triangular test for a superior *brevet* on the 15th inst. over a course from Rheims to Mailly and Sissonne Camps. Capt. Roisin also made one test on a 50-h.p. Deperdussin, going from Rheims to St. Cyr. Lieut. Redelsperger completed his qualifying trials with a flight from St. Cyr to Rheims.

Three on a Deperdussin.

THE escadrille of Deperdussin monoplanes piloted by Lieuts. Brocard, Lalanne, Radisson, Rochette, and Sergeants Didier and Verdier, flew from Rheims to Sissonne Camp, on the 15th inst. The machine piloted by Lieut. Brocard was a three-seater, with 100-h.p. Gnome motor, and had two passengers on board.

A M. Farman Superior Pilot.

AT Buc, on the 15th inst., Lieut. Moris, on a M. Farman biplane, made a test of an hour and a-half's duration for his superior *brevet*, attaining during the flight a maximum height of 1,800 metres.

Fine Flight on a Clerget Deperdussin.

AT the Deperdussin school at Etampes, Duval was flying one of the monoplanes fitted with a Clerget motor for over an hour on the 15th inst. During his flight, which was mostly at a height of 1,500 metres, he passed over Dourdan, Mereville, and La Ferte-Alais.

Fine Flying at Pau.

LAST week-end several of the officers at the Blériot military school at Pau made good flights. Lieuts. Malherbe and Brûlé each went for long cross-country trips, and Sapper Thorel made the duration flight of an hour and a-half and the spiral *vol plané* test for a superior *brevet*.

Brindepont Back in Paris.

BRINDEJON DES MOULINAS completed his trip from Madrid on the 16th inst. He started from Ivry-la-Montagne at 7 a.m. and reached Auxerre at 8.20; after a rest of nearly an hour he restarted, and at 10.45 landed safely on the Morane ground at Villacoublay.

Flying over Longchamp.

ON his M. Farman biplane, which is fitted with a De Dion motor, the Marquis de Larentz Tholozan, accompanied by the Prince de Ligne, made a fine flight above Longchamp, and then returned to Buc at a good speed.

Honours after Monaco Meeting.

AT the conclusion of the racing at Monaco, the Cross of a Chevalier of the Order of St. Charles was conferred upon M. Deperdussin and M. Breguet by the Prince of Monaco.

Two Promising Dep. Pupils.

AT the Deperdussin military school at Bétheny, near Rheims, on the 17th inst., Private Hostein and Sapper Lucien Prevost each concluded their term of training by a flight of over an hour, in a very strong wind.

Crombez Flies to Ghent.

ON his Deperdussin monoplane, Crombez flew from Liège to Brussels on Sunday, and on Monday went on to Ghent, landing in the exhibition grounds. Crombez is to commence the aerial post in connection with the Ghent exhibition on Saturday.

A 200-h.p. Anzani Motor.

THE very fine series of motors bearing the famous Anzani name have now been added to by one which has no less than 20 cylinders, and develops 200 h.p. at 1,200 revs. per min. The bore and stroke of the motor are 105 by 140 mm. respectively, while the weight of the motor is given at 260 kilogs. The general arrangement is similar to that of the well-known 10-cyl. 100-h.p. model, and the cylinders are arranged in four groups of five, each group on a different axis a little behind the previous one, and so placed that when looked at from the front the cylinders all appear to be equally spaced. Two carburetors and two magnetos are fitted. We hope to give further details of this very interesting motor very shortly.

Fatal Accidents.

A DOUBLE fatality occurred at Bengera, near Salonika, on Thursday of last week, when a monoplane, piloted by the Greek officer, Lieut. E. Argyropoulos, fell from a height of 600 metres. Both the pilot and the passenger—M. Constantinos Manos—were killed. While flying at the Mirafiori flying ground near Turin, a machine piloted by M. Slavorosoff, suddenly dived to the ground apparently through motor trouble. The pilot was seriously injured, while the passenger was burnt to death. On Saturday, while O. W. Brodie was testing a new machine at Chicago, it fell and the pilot was killed. A fatal accident occurred at Villacoublay on Monday to Lieut. Deblamont through his machine falling from a height of 100 metres.

The Aerial Prince Henry Contest.

BOTH the Prussian and Bavarian military authorities have nominated officers to take part in the Aerial Prince Henry Circuit. Prussia is to be represented by nine officers and Bavaria by three. The German Government has also given permission for the Zeppelin "Suchsen" to take part in the event.

A Flying Corps for Belgium.

ARRANGEMENTS have now been completed for the establishment on a proper footing of a Flying Corps for the Belgian Army. According to the Royal Decree which created the corps, it will be divided into companies, each consisting of four machines, and the pilots will as far as possible be selected from volunteers.

Successful Belgian-Built Farman.

THE Henry Farman biplanes which have been built in Belgium for the Belgian military authorities have passed their trials with great success. With a load of 300 kilogs., a height of 500 metres was climbed in 5 mins. 44 secs., while the machines were dismantled and packed on a car for transport in 32 mins., and re-erected ready for flight in 28 mins.

Aerial Post at Ghent Exhibition.

THE Belgian Government has approved of arrangements for an aerial postal service between Ghent and Lille during the time that the International Exhibition at Ghent is open. It is proposed that an aeroplane shall make the double journey every day with the mails.

Flying Over Mount Titan.

DURING a trip from Rimini to San Marin on his Blériot-Gnome monoplane on the 17th inst., Giovanni Widmer passed over Mount Titan which is 2,000 metres high.

Royal Bristol Pilot in Roumania.

HAVING returned to Roumania, Prince Cantacuzene made a splendid flight lasting half an hour, over Bucharest on one of the 80-h.p. Bristol monoplanes belonging to the Roumanian army, on Monday morning. Starting up from the military aerodrome just outside the city, the Prince piloted the machine, which carried a passenger, to a height of 4,000 ft. and made several circuits over the city.

Flying in Algeria.

DURING his visit of inspection in Algeria, Col. Bouttieaux had the experience of flying 400 kiloms. over the Sahara Desert. An escadrille of four H. Farman machines, piloted by Lieuts.

Reimbert, Cheutin, Jolain, and Sergeant Benoit started from Biskra on the morning of the 14th inst., and made a non-stop flight of 220 kiloms. in 1 hr. 45 mins. to Touggourt. The next day a flight of 180 kiloms. took the flyers to Ouargla. This trip was made in the reverse direction on the 16th inst., when it occupied 3 hours, the biplanes having to fight their way against a strong wind, and on the 17th, the four machines completed the return journey to Biskra. Col. Bouttieaux was a passenger on Lieut. Cheutin's machine. All the machines were fitted with 80-h.p. Gnome motors and Integrale propellers.

Deperdussins in Morocco.

IN view of the visit of Col. Bouttieaux, who is making a tour of inspection of the military aviation centres in the French colonies, Lieuts. Jannerod, Magnien and Souleilland made a journey on their single-seater 50-h.p. Deperdussins from Oudjda to Merada, on the 18th inst. They covered the distance of 160 kiloms. in 1½ hrs.

Caudron Hydros at Work.

ON Tuesday morning, at 11 a.m., two Caudron hydro-biplanes, piloted by Lieuts. Gerard and Le Bihan, arrived at Boulogne from Crotoy. After alighting on the water the machines rose again and then landed on the beach. Subsequently they went on to Calais, and later in the afternoon were at Dunkerque. The return journey to Crotoy was safely made by Lieut. Le Bihan, but Lieut. Gerard was detained at Boulogne owing to the chassis being damaged in making an awkward landing.

An American Record.

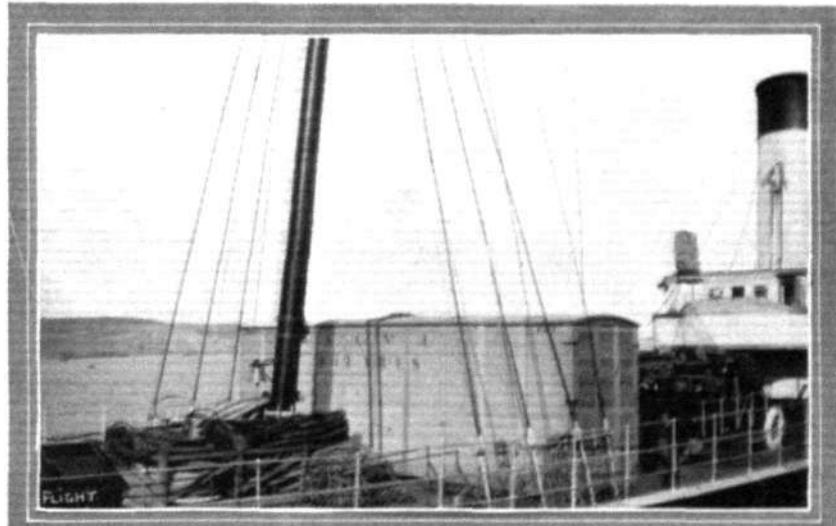
ON a Burgess tractor biplane on March 29th, Lieuts. Milling and Sherman flew from Texas city to San Antonio, a distance of 237 miles in 3 hrs. 20 mins., the average speed being 71 miles per hour. Before descending at San Antonio, the two aviators circled over the neighbourhood for an hour thus making a new American duration record of 4 hrs. 22 mins., breaking the old record by 31 mins. Two days later they flew back to Texas against the wind in 3 hrs. 50 min.

A Dep. in California.

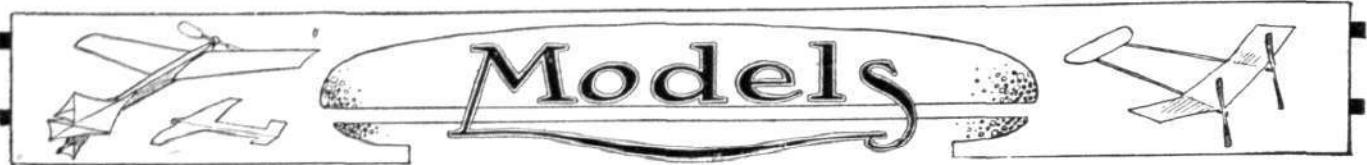
A FINE flight from Los Angeles to San Diego, California, was made on March 23rd by W. L. Bonney, on his Deperdussin monoplane, with Miss M. Stahl as passenger. The trip was made in two stages, the first from Los Angeles to Oceanside, taking 1 hr. 8 mins., while the remainder of the journey took 40 mins. The average speed was 62·22 miles per hour.

A French Balloon Disaster.

IN the terrible balloon accident which occurred near Villiers-sur-Marne on Thursday afternoon of last week, the French Army lost one of her foremost aviators—Capt. Clavenad. The balloon, with five passengers on board, left the Aero Club of France park at St. Cloud during the afternoon, and was first seen to be in difficulties at Fontenay-sous-Bois, where the car collided with a tall chimney. It also collided with a house at Nogent, and then drifted to Villiers, where it made a sudden descent. The pilot, M. Aumont-Thieville and Capt. Clavenad and Sergeant Richy were killed on the spot, and Lieut. de Noue and Lieut. de Vasselon died shortly after. Apparently the aeronauts, in trying to make a quick descent, opened the escape valve too quickly, and then in error pulled the rippling panel.



The military Blériot machine, which Mr. Gustav Hamel flew from Dover to Cologne last week, arriving in its packing case at Dover from France, prior to the achievement.



Models

Edited by V. E. JOHNSON, M.A.

Tractors v. Propellers.

A correspondent writes asking us why more power is required to drive a single tractor (propeller in front) model than a similar one in which the propeller is placed in the rear of the machine.

This question *re* the position of the propeller or propellers is one of the greatest importance, and a few remarks *re* the respective advantages and disadvantages of either system will no doubt be of interest.

So far as full-sized monoplanes are concerned, structural difficulties render it easier (apart from other reasons) to arrange the propeller in front than behind. One of the first things discovered was that the machine lifted more. Quite simple experiments only are necessary to show that when a propeller revolves air is drawn in from the front and all round from the sides and driven off to the rear in approximately a cylindrical column.

The lift per unit wing area will therefore be increased for the following reason, *viz.*, because the speed of the wings relatively to the air is increased.

If V be the velocity of the machine and v the velocity of the column of air driven off by the tractor, then, remembering that the lift of a wing or plane is proportional to the *square* of the velocity, we have : Lift in case of propeller type $= \frac{V^2}{(V+v)^2}$. The result is, however, also much affected by the *diameter* of the propeller, because it is of primary importance to engage as much air as possible. It is more efficient to engage a large amount of air and impart to it a small velocity than to engage a small amount and give it a quick velocity. Owing to the sucking-in action of the propeller, to which we have referred, more air is engaged, this also increasing the lift.

Now flying, as all students of aerodynamics are aware, is a phenomenon that is concerned with motion relative to the atmosphere, and not at all, directly, with motion relative to the earth. Our correspondent, who asks why more power is required to drive a tractor model is evidently looking at flight from the earth-bound man's standpoint—that is to say, he does not allow for the excellent progress that the model may be making through the draught of its own screw.

Imagine for a moment that the wings and the screw were independent of each other. It is then readily possible to imagine the wings being supported by the slip-stream of the propeller, as is a kite in the wind. One says, quite properly, a kite flies in the wind, but having regard to the fact that it also stands still over the earth, it would, from our correspondent's standpoint, be singularly wasteful

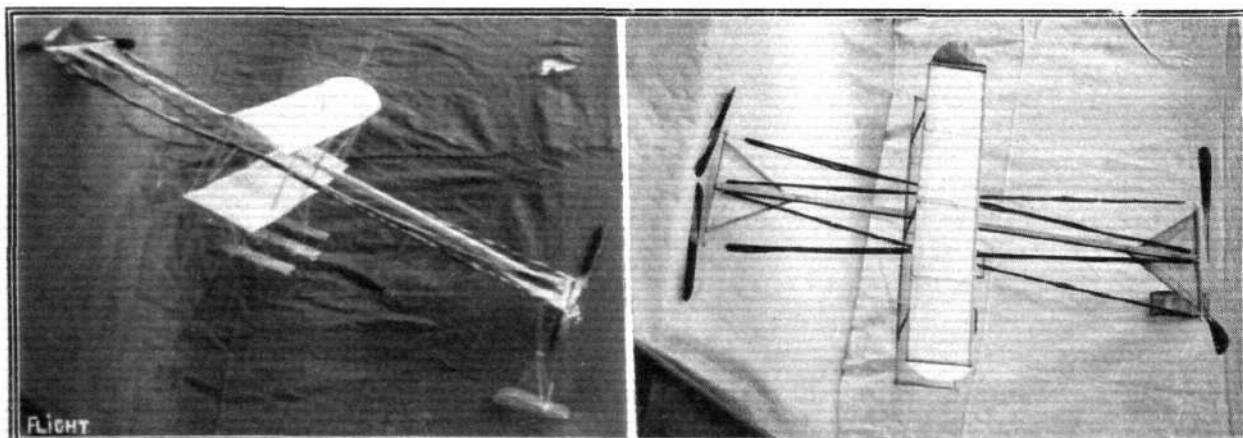
character of any motion relatively to the earth's surface that may take place in consequence of the flying.

A point of some practical consequence is the influence of propeller position on longitudinal stability which is referred to by Mr. A. E. Berriman in his "Principles of Flight," pp. 39 and 40. One or two of the chief points are the following:—Presuming the propeller right in front (tractor), then since its draught affects both the main planes and the tail, the stopping of the engine in flight should not seriously affect the balance. In model practice this is borne out by the fact that a properly designed tractor can and does very often glide to earth when the rubber motor is run down. If the propeller is in the rear, or the tail lies entirely outside its influence, then there is no effect. The propeller can, of course, lie between the main plane and the tail, and often does so in the case of a full-sized machine. In the case of rubber-driven models this is very seldom the case owing to its shortening effect on the motor rod, and the consequent fall in duration or distance; in the case of a power-driven model this difficulty does not arise. In this case, as Mr. Berriman points out, the stoppage of the motor in mid air will at once deprive the tail plane of some of its lifting power, and it will in consequence tend to droop, thus disturbing the equilibrium of the machine; presuming, however, the machine tilted up in mid air (owing to some other cause), then the use of the propeller draught acting on the elevator flap of the tail might be of the greatest service in restoring equilibrium, owing to its lifting effect on the flap. This presumes, of course, the possibility of accelerating the motor at will.

A Model with Four Screws.

We give this week two illustrations of a model hydro-aeroplane fitted with four screws, two tractors and two propellers. As the photographs show, the model is a biplane with four floats, one under the triangular elevator, the other three being situated partly under and partly in front of the main planes. The triangular elevator is set at a positive angle (adjustable); the corresponding triangular-shaped tail is fixed, and has a slight negative angle (to assist longitudinal stability). The main planes are shown in the illustrations in such a position that the centre of gravity is slightly in advance of their leading edge. The four strands of rubber cross one another, as clearly shown in Fig. 1, and are found not to interfere with one another; they could easily be separated by wire rings if necessary.

The length of the model is 3 ft., the span 2 ft., area of main planes 216 sq. ins., total weight 8 $\frac{3}{4}$ ozs. The 4 motors are each composed of 6 strands of $\frac{1}{16}$ -in. strip rubber. The total weight of the 4 floats is 1 oz. The model was constructed as a test



A hydro-aeroplane (biplane) with four propellers, designed and constructed by V. E. Johnson.

of power were a tractor screw employed, as it might be, to supply the pull that is ordinarily derived from the kite flyer's muscles.

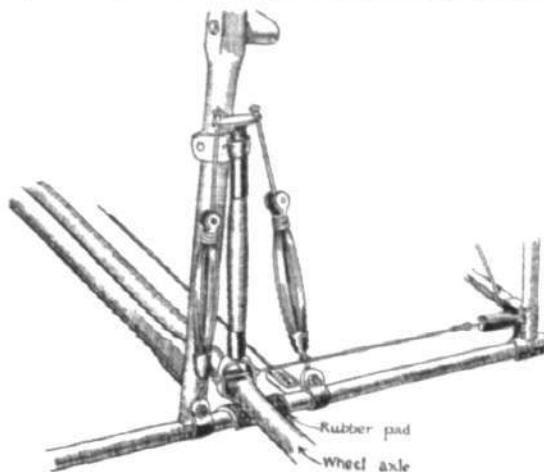
The mental comparison of kites and aeroplanes, and also helicopters and aeroplanes from the power standpoint, is most instructive, and helps perhaps more than any other line of thought to fix ideas on the true inwardness of the phenomenon of flight, and particularly on that aspect of it which has to do with the purely incidental

against a 6-oz. 2-propeller model, the planes being the same in both cases, and the floats the same in the two cases, save that an additional one was added in the centre to support the extra 2 $\frac{3}{4}$ ozs.

In the case of the biplane with two propellers, two motors each of 8 strands $\frac{1}{16}$ -in. strip rubber were used.

Since one is using 6 strands instead of 8 on the 4-propeller machine, one should (in theory, at any rate) obtain a proportionate

increase of turns, and so a longer distance or duration than in the case of the two-propeller machine. In the model referred to all the propellers were of the same pitch, being four of Bonn's 9-in. diameter "Invincible" carved propellers; the four, with axle and hooks, weigh under 1 oz. Now, since the two rear propellers are working in the slip-stream of the two "tractors," they should, no doubt (to obtain a better efficiency), have a somewhat coarser pitch. The four propellers together form two $\frac{1}{2}$ -oz. weights on an arm 3 ft. long,



The shock-absorber on the Stanger petrol-driven model.

thereby giving rise to a somewhat large moment of inertia about the central lateral axis; the propellers must also be caused to respectively rotate so as to avoid any gyroscopic action.

The design of the machine is such as to offer a minimum increase of both weight and head resistance for the object aimed at.

The principle is obviously one that can be applied to either a self-launching model on wheels or a hand-launched model. In both these latter cases the proportionate increase of weight would be less, because in the case of the r.o.g. machine the increase in the weight of the altered chassis need be but little, possibly none at all, and in the case of the hand-launched model no such factor comes into play.

We have not yet submitted the model to any crucial tests for duration further than to ascertain that such a model can be made to fly successfully. It should be noted that the case of the hydro-aeroplane is the least advantageous one owing to the greater proportionate increase in weight. In building such a model straight away, and not converting it, one would, of course, use only two (slightly larger) floats instead of three, and save a little weight in consequence, also some head resistance, &c.

"Flight" Model Supplement.

A correspondent writes: "I see in this week's FLIGHT that the model supplement of the Olympia Show may have to be abandoned. I hope under the circumstances that this will not take place. There are hundreds of aeromodellists who, like myself, have no club in our vicinity, and who highly value your instructive and interesting articles in the Model Section. I hope that you will therefore find it possible to publish a supplement; I am sure it will be the means of attracting more readers." As we stated a fortnight ago, the matter is not one that rests with us at all. The Editor at once most kindly acceded to the proposal; the onus, if there be any in the matter, rests entirely with those who could supply the necessary information, but, it would appear, prefer not to do so. As already stated, all those who have so far kindly supplied particulars will be dealt with in this section; this will of course take some time, as they must be worked in as occasion permits, but every endeavour will be made to supply *some* item weekly until finished.

The Twining Aeroplane Co.'s Catalogue.

We have received from the above one of their catalogues, the most interesting feature of which, from the ordinary aeromodellist's point



KITE AND MODEL AEROPLANE ASSOCIATION.

Official Notices.

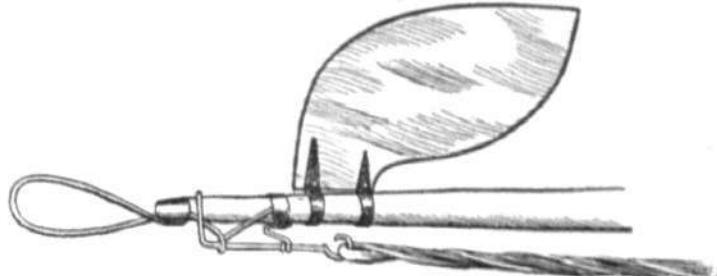
British Model Records.

Hand-launched	Distance	...	A. E. Woillard	...	477 yards.
	Duration	...	A. F. Houlberg	...	89 secs.
Off ground	Distance	...	G. Rowlands...	...	232 yards.
	Duration	...	A. F. Houlberg	...	51 secs.
Hydro, off water	Duration	...	G. P. Bragg-Smith	...	25 secs.
Single-tractor screw, hand-launched	Distance	...	F. G. Hindsley	...	173 yards.
	Duration	...	J. E. Louch	...	44 secs.
Do., off ground	Duration	...	J. E. Louch	...	40 secs.

Affiliation.—An application for affiliation has been received from the Hendon and District Model Aero Club.

or view, probably is their parcels of working drawings and materials for building models; no less than 25 such parcels are quoted, all at an extremely moderate figure, and contain among them many of the best-known rubber-driven flying models of the present day. The catalogue also contains a price list of the usual model accessories, such as woods, rubber, lubricants, wire strainers, wire, bearings, aluminium disc wheels, winders, &c., &c. No aeromodellist should be without one of these catalogues. We have personally seen many of the models made by this firm in actual flight, and we are sure that if the instructions given in the "parcels" are only carried out with reasonable care, the purchaser will have every reason to be fully satisfied with his bargain. The awards won by this firm are among the best, and their number is many.

Referring to the subject of winders, the above firm supply a special form of double-gear'd winder, somewhat resembling an egg-beater, designed by Mr. Twining, by which both rubber motors are wound at the same time *from the front* of the machine. The



The nose of the Houlberg model, showing fin, protector, and one of the twin-winding hooks and catch.

illustration which we give this week of the nose of the Houlberg model, showing one hook and one skein of rubber, should make this clear, the upright catch of the hook portion being pulled forwards and outwards laterally when winding, and released and allowed to go back when wound; the other hook and catch is similarly dealt with at the same time. We have always been much surprised that this system has not come into more general use, it possesses so many advantages, both rubbers being wound up at the same time, and always to an equal amount, and in less than half the time, and far less undue strains imparted to the machine.

Wind Gusts versus Models.

A really extraordinary spectacle was afforded on Saturday afternoon last in the scratch competition for a gold and silver medal (with gold centre) which took place on the Croydon football ground—one of the most unsuitable places that could possibly be chosen from an aeromodellist's point of view. From a spectator's point of view—more especially if the spectator happened to know something of aeronautics—the sight was full of interest, not to say instruction. Surrounded on one side by a railway embankment (over which a strong and gusty wind was blowing), on another side by a grand stand, and on the third by a bank and building, it was something like trying to fly in a deep saucer or the crater of an extinct volcano. The competition was for hand-launched models, but even the invincible A frame twin-propeller machine—which on open ground can hold its own, more or less, even against a gale—had to own itself beaten, and out of some fifty flights not one reached a duration of 40 secs. There was one particular portion of the ground which, as soon as any model reached it, no matter how well (or ill) it was flying, was immediately fatal to it, and tumbled it over for all the world like a shot partridge. We have seen many hundreds—thousands probably—of model flights, but never anything quite equal to it. The winning model, during three out of its four flights, at one time pointed straight up in the air for several seconds, then flew upside down for some time, then righted itself and went on flying as if such was its usual method of procedure.

Chevillard's *chute de côté* is indeed wonderful—to use no stronger term; but even Chevillard has to take a back seat when confronted with the "stunts" which we witnessed in model form on Saturday last!



Competition.—The scratch competition for prizes, presented by O.T., Ltd., took place on the Croydon Common Football Ground, on Saturday, April 19th. The result was: 1st, F. Jannaway, 35½ secs., who took the gold medal; 2nd, J. E. Louch, of the North-East London Ae. Club, 31½ secs., taking silver medal. The judges were Messrs. V. E. Johnson, F. Pringuer and W. H. Akehurst. The performances were good, taking into account the gusty wind and the downward winds that were encountered on the ground, this being demonstrated when Capt. Penfold made his balloon ascent and parachute descent, which, in such a wind, was a plucky display, and one of the finest seen in such a wind.

Hydro. Trials.—These take place to-day (Saturday), 26th, on the Rushmore Pond, Wimbledon Common, at 3 o'clock.

Programme of Competitions.—The programme for the year is in course of preparation and will shortly go to press, the rules committees having been busily drawing up the rules, which will be more scientific than last year.

27, Victory Road, Wimbledon, S.W. W. H. AKEHURST, Hon. Sec.

CORRESPONDENCE.

High-Speed Birds.

[1754] I am very much obliged to Mr. McQueeny for his reply to my query on high-speed birds. Could he let me know, through the medium of your valuable paper, how these speeds are estimated? Also how long it is possible for the birds to maintain these speeds?

Brook Green.

A. H. FORD MOORE.

Aeronautical Engines.

[1755] I have read with a good deal of interest the articles appearing in your journal upon aeronautical engines, particularly that portion appearing in your issue of March 15th. It is refreshing to find articles on internal combustion engines where the writer is really well acquainted with the subject.

There is, however, one remark of the author of these articles which I should like to comment upon, viz., that implying that water cooling is impossible with rotary cylinder engines.

I would point out that all radial rotary cylinder engines might be provided with a thin copper hollow-ribbed jacket containing only a relatively thin film of water, say $\frac{1}{16}$ -inch thick, surrounding the cylinder walls, each such copper jacket could be connected at the inner end to the jacket of the next cylinder, and so on round all the cylinders. Indeed so small an amount of water may be carried as to render the question of weight increase negligible. This film of water in the jackets so connected does not need any other or further supply, would act perfectly as a water cooler by centrifugal action, inasmuch as the water would circulate effectively centrifugally without the assistance of a pump, the water at the outer or hotter ends of each cylinder would become most heated, and therefore would be relatively lighter than the water at the inner end of each jacket, and in the connecting pipes from jacket to jacket. Consequently, the water in the outer or cover ends of each jacket would always, immediately it became heated, tend to move toward the centre, while that water nearer the centre, which would be relatively cooler, would tend to move outwardly to the ends of the jacket to replace the heated water. Consequently, by centrifugal action alone, a continuous circulation in this thin film of water could be maintained, so providing that increased power and reliability in the rotary cylinder engine which is so desirable, and in which the air-cooled cylinder is at present so deficient.

Moreover, by keeping the cylinders cooler, not only a greater power could be obtained, but probably only one-fifth of the lubricating oil at present used would be necessary, further increasing the life of the engine.

It will be obvious to anyone who thinks about it, that the centrifugal action referred to will be precisely similar relatively to the centre of each engine, as the thermo-syphon action acting by convection relatively to gravity on automobile engines.

April 10th.

J. D. ROOTS.

Streamline Bodies.

[1756] Might I suggest to those gentlemen who have recently been engaged in filling the columns of FLIGHT with somewhat acrimonious discussion as to the respective merits and demerits of pointed and blunt entries, that they turn to FLIGHT, Vol. IV, (1912), pp. 545, *et seq.*, and 712.

Primed with a few of the facts mentioned therein, perhaps they will favour us with a little more plausible reasoning and rather fewer unconvincing analogies than has in the past been the case.

JAMES E. REID.

W. Norwood.



A Fatal Mishap at Eastchurch.

By the unfortunate mischance which cost Paymaster E. R. Berne his life, at Eastchurch, on Monday, the Naval Wing of the Royal Flying Corps has lost a very fine flyer. He was standing in front of a tractor biplane talking to the pilot, Lieut. Wildman Lushington, when the machine ran forward. It knocked the unfortunate man down, and his legs were so injured by the propeller that he died from haemorrhage and shock two and a half hours after the accident.

Capt. Penfold at Croydon.

In no wise daunted by the strong westerly wind on Saturday last, Capt. Penfold, the Australian aeronaut, made a successful balloon ascent from the Croydon Football Grounds in the O.T. balloon. Holding on to the trapeze by his hands, Capt. Penfold was carried up 4,000 ft., performing some trapeze feats meanwhile. He then parted company with the gas-bag and the parachute carried him to Norwood. The balloon was retrieved by a party of Boy Scouts near Elmers End.

AIRSHIP NEWS.

The French Rigid Airship "Spies."

AT last, after many postponements, the French rigid airship "Spies" has emerged into the open air, and on Thursday afternoon of last week the great dirigible, which is 340 feet long, was very carefully piloted over a few circuits of the ground at St. Cyr. The airship is fitted with two six-cylinder Chenu motors of 1,800-h.p., each driving two 18-ft. propellers. The cubic capacity of the airship, the framework of which is made of wood, is 35,000 cubic feet.

Long Cruise by Italian Dirigible.

THE Italian military dirigible, P5, made a splendid trip of 450 kiloms. on Sunday morning. Leaving Vigna-di-Valle, close to Bracciano, at 5.40 a.m., she went to the airship station at Boscomantico, close to Verona, arriving at 2.55 p.m. During the trip the airship attained a height of 1,700 metres, in order to traverse the crest of the Apennines.

An Airship Over the Vatican.

ON the 17th inst., His Holiness the Pope had a splendid view of an Italian dirigible, which cruised over the Vatican for some time. The officers on board waved their handkerchiefs and flags, and their salutations were acknowledged by the Pope.

Fine Voyage by L1.

ON Monday, the German Naval Zeppelin cruiser L1 started from Johannisthal at a quarter past eight, and without incident was safely docked at Hamburg at 5.13 in the afternoon.



Messrs. Bonn and Co.'s Extensions.

MESSRS. BONN AND CO., LTD., of 97, New Oxford Street, wish to make it quite clear to our readers that they have no intention of vacating their present premises as above, but owing to the great increase of their business they are compelled to seek further accommodation.



MODEL CLUB DIARY AND REPORTS.

CLUB reports of chief work done will be published monthly for the future. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

S. Eastern Model Ae.C. (1, RAILWAY APPROACH, BROCKLEY).

DURING this week-end flying will take place at Woolwich Common, Blackheath, Lee and Mitcham as usual. On Monday, Wednesday and Friday evenings of next week flying experiments will be conducted until dusk.



NEW COMPANIES REGISTERED.

British Airship Development Synd., Ltd.—Capital £5,000, in £1 shares.

English Boerner Aerial Synd., Ltd., Blomfield House, 85, London Wall, E.C.—Capital £5,000, in 4,700 ordinary shares of £1 each and 6,000 deferred shares of 1s. each. Acquiring an option in relation to the Boerner type of airships.



Aeronautical Patents Published.

Applied for in 1913.

Published April 24th, 1913.

984. T. D. GREER. Stabilizers for flying machines.

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